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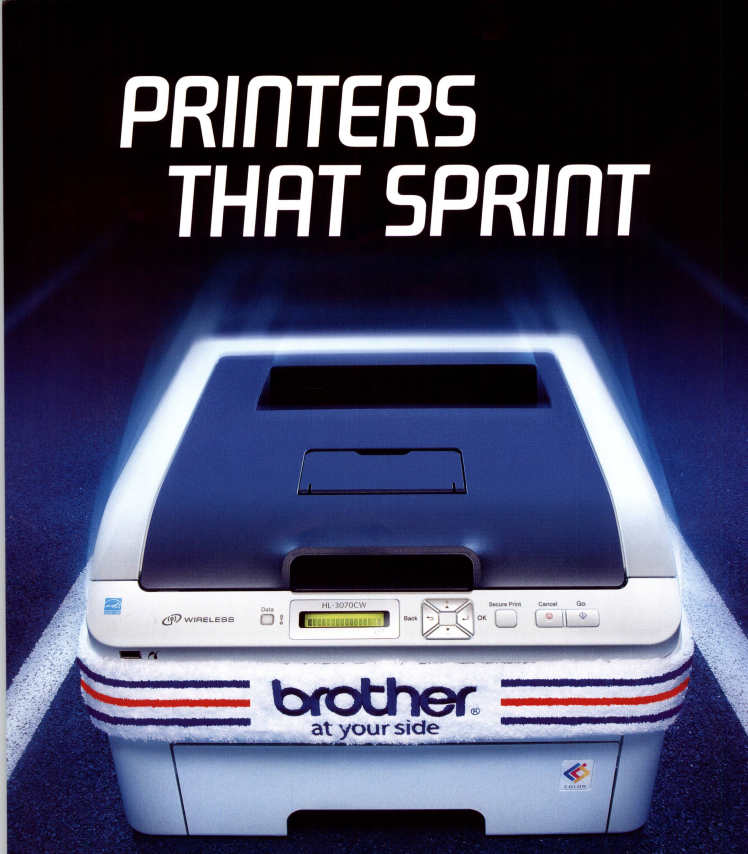

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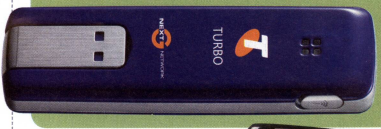

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DVD Contents

Create a rescue disc with UserOS Ultra 9.10, or use our exclusive operating system to recharge an old PC. We show you how in our feature starting on page 42. Plus there's lots more on this month's cover DVD.

Using the DVD

The *PC User* cover DVD requires a DVD-ROM drive. Internet Explorer 6 or later is recommended for easy installation of the software. Most of the software on the disc requires a fairly recent version of Windows, although each program has individual requirements, which are indicated on the disc. **Please note** the other requirements and limitations on the DVD cover. **Don't have a DVD drive?** We'll mail you a free CD with selected software from the DVD. Just go to **www.pcuser.com.au/cdmail**. This month's CD code is **PCUCD0410A**. **Need help?** See the back cover of the DVD for details on how to use the DVD and how to get help.

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CREATIVITY/AUTHORING

Audacity, Celtx, Kore Player, Daz Studio, Moviestorm, Blender, Paint.NET

PC/HOME ENTERTAINMENT

EventGhost, ffdshow, Foobar2000, Haali Media Splitter, Media Portal, MediaCoder, NetVideoHunter, TVersity media server, VideoLAN, XBMC

PRODUCTIVITY

Dropbox, Evernote, Go-OO, LogMeIn Free, Mozilla Thunderbird 3, Portable Apps Suite, VirtualBox, WordPress

SOFTWARE:

FREE FULL VERSIONS

Ashampoo Magical Defrag 2, B-free MoneyManager, MyHeritage Family Tree Builder 4, Microsoft Security Essentials, UserOS Ultra 9.10, PC User PerfectPC 2.0 Beta

APPLICATIONS

InfraRecorder, Smart Math Calculator, Jing, VZOchat, Any Video Converter, Calibre

ONLINE TOOLS

Microsoft Security Essentials, Comodo Internet Security, Orbit Downloader, Maxthon

SYSTEM UTILITIES

IZArc, Spyware Terminator, Wise Registry Cleaner, Driver Magician Lite, Auto Shutdown Manager, Windows 7 Codec Pack, LastPass Password Manager

ENTERTAINMENT:

GAME DEMOS

Operation Flashpoint: Dragon Rising, Torchlight

FREE GAMES

Lost Saga, Little Fighter, SwiftKit

TUTORIALS:

EXCLUSIVE VIDEO GUIDES

Creating a triptych in Photoshop, Documenting Excel 2003 and 2007 worksheets, Squeezing and stretching text in Word 2003 and 2007, Dreamweaver HTML newsletters, Fixing older YouTube videos, Introducing UserOS Ultra 9.10, Introducing PC User PerfectPC 2.0 Beta

GAME GUIDES

Dragon Age: Origins, Ghostbusters

FULL SOFTWARE GUIDES

Up and running with Ashampoo Magical Defrag 2, Up and running with B-free MoneyManager

FEATURED TOOLS:

Word macro of the month, Excel macro of the month, UserOS Ultra 9.10, PC User PerfectPC 2.0 Beta, DriveImage XML, Adobe Reader, Foxit Reader, iTunes for Windows

*** Unless indicated otherwise, the listed programs may be shareware or trial versions.**

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PC User

Your guide to *PC User*'s product reviews and editorial policies.

At *Australian PC User*, we pride ourselves in the quality and independence of our editorial. This is a commercial as well as an ethical policy, because we know that readers expect nothing less. *PC User* is Australia's top-selling technology magazine and our credibility is a key reason for our market leadership. To ensure we maintain our credibility, we insist on writers following strict editorial policies. There are several policies, but here are the most important:

* All reviews and comparisons must be scrupulously fair to every product and brand, but writers should never shy away from the truth. Above all, we must provide independent buying advice that readers can trust.
* Every product must be evaluated as thoroughly as possible, using a repeatable and transparent procedure reflecting real-world usage by readers.
* Every tip, tutorial and piece of advice must be thoroughly researched and tested by the writer.

_EXCLUSIVE BENCHMARKS

To achieve the second editorial policy above, we use objective, quantifiable benchmarks whenever possible. Unfortunately, we found existing benchmark software didn't go far enough for our aim of measuring real-world PC performance. So our hardware writer, Darren Yates, developed our own benchmark suite, UserBench, exclusively for *PC User*.

UserBench is Australia's only home-grown benchmark suite, and we reckon it's the world's best. It brings a level of realism and precision never seen before. All the UserBench benchmarks are based on common, time-consuming tasks — video and image conversions and other tasks that tie up valuable PC time — as well as real games. They allow us to provide in-depth details including actual times, so you can see how long the system takes to accomplish these tasks. Here's a guide to each benchmark:

* **UserBench Encode 2009.** This benchmark combines audio and video encoding, converting a 12-minute stereo .wav file into five different audio formats: AAC, AC-3, OGG, WMA and MP3. It then encodes a 1,500-frame .avi file into five different video formats: MPEG-2, MPEG-1, WMV, H.264 and MPEG-4 ISO. Each conversion is timed and recorded in frames per second (fps) or megabytes per second (MB/s) as appropriate to produce an overall UserBench Encode 2009 score, based on a reference of 10 being a 2GHz Pentium 4 desktop PC with 1GB of memory running Windows XP SP2.
* **UserBench Image 2.** This takes a 17MB TIF image and runs it through 10 filters using the command line image converter ImageMagick. It records all times and gives the result as an overall encoding time and a score, based on a reference of 10 being its performance on a 2GHz Pentium 4 PC running Windows XP Home Edition SP2.
* **UserBench Security 3.** This scans 500MB of files using Avast Home Edition 4.8 and AVG 8.5 Free Edition. It then uses the tool 7-Zip to compress the same files into an archive. It records the scan and archiving times in minutes and seconds, plus an overall score, similar to Encode 2009.
* **UserBench Crysis 2008.** *Crysis* is a demanding game with true DirectX 10 graphics and this benchmark automates the *Crysis* demo to provide unrivalled 3D games testing. It enables us to test at a multitude of resolution settings from 640 x 480 to 1,920 x 1,200 pixels. The final results for each test are provided in average fps.
* **UserBench UT3Demo 2.** This automates the *Unreal Tournament III* demo to test DirectX 9/10 speed with an infinite number of tests per run at different resolutions from 640 x 480 to 1,920 x 1,200 pixels. Each test returns an average fps and charts for percentile fps bands.
* **UserBench Half-Life 2: Lost Coast 2008.** Our *Lost Coast* benchmark automates this *Half-Life 2* episode, testing DirectX 9 performance using infinite tests per run at various resolutions, with settings for antialiasing and anisotropy.
* **UserBench Battery 2008.** This new benchmark replaces VeriTest BatteryMark 4.01. It times the battery life of a notebook while constantly playing a WMV video clip in the background. The final result is recorded in hours and minutes.
* **Other benchmarks.** We still use third-party benchmarks where they are best of breed. These include HD Tach 3.0.4.0, which is used to test the data transfer rates of hard drives.

How to read the benchmark results

For most benchmarks that measure performance using time (minutes and seconds), lower scores mean faster performance at that given task. The exception is UserBench Battery because you want a notebook's battery to last as long as possible. For benchmarks that measure frame rate (frames per second) or data transfer (kilobytes per second), higher scores are better. In particular, for gaming, you should look for at least 50fps on average, but preferably more (to allow for future games). In our new UserBench Encode benchmark, look for a Final Score that's as high as possible.

Listed prices: The listed pricing in *PC User*'s reviews are generally recommended retail prices. But where possible, we've used the lowest common prices that we could find on Australian online retail sites during mid-February, 2010. We do this because street pricing often bears little resemblance to the RRP. However, note that pricing varies and changes rapidly, so shop around yourself. Start with the online retailers advertising in *PC User*, **www.staticice.com.au** and an Australian Google search. Remember to check out the delivery and other charges, too.

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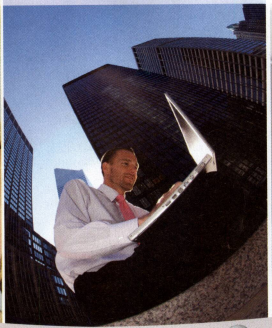

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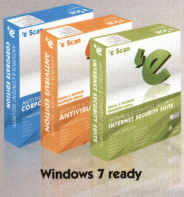

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Defending the net

Beware those who seek to control the internet, says **Glenn Rees**.

In the US, there has been strong debate about 'net neutrality', the principle that there should be no restrictions on content, technologies and methods of communication on the internet. It's a complex topic (see **http://en.wikipedia.org/wiki/Network_neutrality**), but what I find interesting is that while the US is in the midst of such a lofty debate, our Australian governments don't seem to hold such grand ideals.

The South Australian government recently passed a law requiring anyone making an online comment about the state election to publish their real name and postcode. Thankfully, the subsequent outcry forced the SA government to back down and announce it would repeal the law.

There's no doubt the standard of online discussions is a growing concern, as evidenced when Engadget turned off comments (see **http://tinyurl.com/engadget-comments**), but on newspapers, where publishing real names on readers' letters is standard practice, it's entirely self-regulated. Governments have no business legislating any type of editorial controls, let alone any related to politics.

In China, of course, it's a different story — yet federal Communications Minister, Stephen Conroy, recently pointed to China as an example of how Google could censor YouTube to complement the government's mandatory ISP filtering scheme. "Google at the moment filters an enormous amount of material on behalf of the Chinese government," said Senator Conroy when explaining why the government had approached Google about censoring YouTube in line with the filtering scheme's 'refused classification' (RC) content rules.

The intriguing thing is that Google already bans sex, violence, race hate, child pornography and other extreme videos from YouTube. So what else does Senator Conroy want banned? Thankfully, Google has so far declined Senator Conroy's proposal. "The scope of RC is simply too broad and can raise genuine questions about restrictions on access to information. RC includes the grey realms of material instructing in any crime from graffiti to politically controversial crimes such as euthanasia, and exposing these topics to public debate is vital for democracy," said Google Australia's Iarla Flynn (see **http://tinyurl.com/conroy-youtube**).

Of course, it's not just governments that are seeking tighter internet controls. Movie studios and the Seven Network seemed to want ISPs to be copyright cops when they took iiNet to court for failing to prevent piracy by iiNet's customers. Senator Conroy made his opinion obvious last year, saying iiNet's defence "belongs in a *Yes Minister* episode". However, in the end, the Federal Court disagreed, finding in favour of iiNet (see **http://tinyurl.com/iinet-judgment**).

Of course, there's still the possibility of the movie studios appealing or the government legislating to force ISPs into taking heavy-handed action against their customers. The latter is certainly not out of the question, with secret negotiations for a global Anti-Counterfeiting Trade Agreement (ACTA) having already begun (see **http://tinyurl.com/efa-update**). Don't think that should concern you? Remember, there'd be no presumption of innocence if your ISP wrongfully disconnected you (see **http://tinyurl.com/isp-suspend**).

Still, of more immediate concern is the government's mandatory ISP filtering scheme, with legislation due to be introduced into parliament soon. Why is the government so committed to mandatory ISP filtering? Senator Conroy cites the dangers of child porn as a key reason, but why then is he so keen that Google should further censor YouTube, which is already highly moderated?

Supporters of the filtering scheme talk about protecting our children. A *PC User* reader, for example, took me to task over last month's editorial (see page 10 of the March issue). "Internet filtering will dramatically reduce the probability of the innocent being damaged by unsolicited exposure to unacceptable content," the reader said (see page 10).

Google's moderation of YouTube is apparently not good enough for Senator Conroy.

But it won't. You just don't accidentally stumble across illegal content such as child porn, which is also filtered by major search engines. However, the ISP filters won't stop those who really want to access this type of content. While the government-sponsored testing found that they were 100% effective on the mandatory RC list, the testers were also able to easily circumvent the filters (see **http://tinyurl.com/isp-filter-tests**).

The optional filtering of undesirable content such as adult porn was shown to leak like a sieve, with a best-case success rate of 84.65%, according to the government's tests. And the filters will do nothing to stop the worst threats: predators and cyber-bullies who target our children via social networking sites and other means.

So what's the answer? Basic commonsense solutions, as recommended by the Australian Library and Information Association, Google, Inspire Foundation and Yahoo! (see **www.alia.org.au/internetfiltering**):

* Properly funding a national comprehensive cyber-safety education program for children and parents on how to avoid inappropriate material and stay safe online.
* Significantly increasing and funding the level of oversight by the government and federal police focusing on the locations, such as peer-to-peer networks, where child sexual abuse materials are disseminated.

Mandatory ISP filtering is not the answer. If you agree, it's still not too late to do something to help block the filtering legislation. Go to **http://nocleanfeed.com/takeaction.html** and make yourself heard.

STORAGE SUPERGUIDE

NEXT MONTH

WANT TO UPGRADE YOUR PC'S STORAGE OR SAFELY BACK UP YOUR DATA? IN THE MAY ISSUE OF *PC USER*, WE'LL BE REVIEWING INTERNAL AND EXTERNAL HARD DRIVES, AND MORE.

Seagate Replica

Effortless, automatic backup for **everything** on your PC's hard drive, including the operating system, programs and settings.

We all take for granted how much time, effort and money goes into building our digital libraries until an unforseen computer glitch causes us to lose everything we have. Digital photos, downloaded music, home videos, personal documents and emails are just a small part of digital lives that we can protect with the use of a dependable and simple backup solution.

Seagate's Replica backup system safely backs up *everything* on your PC. After a system crash or virus, Replica can have your PC up and running again in a matter of minutes simply by restoring your PC to a point in time before the problem occured. Replica will do everything from getting your operating system running, ensure your software is installed, as well as reconfigure your settings and bookmarks. Once done, Replica will restore your personal data by retrieving your photos, videos, music and everything else that was on your PC, from a backup copy that it automatically updates.

Another appealing feature of Replica is its behind the scenes operation. You don't need to remember to manualy back up your PC as Replica takes care of that for you by continuously backing up *everything* on your machine as you use it. This comes in handy if you accidently delete an important file a few minutes after working on it. Simply open up Replica and you can drag and drop the 'lost' file from the backup straight onto your PC. Problem solved! Plus, it's maintenance free. Replica keeps track of older files and removes them when necessary to ensure that it never fills up with dozens of copies of the same thing. It's literally set and forget.

Available in either a 250GB model for single PCs or a hefty 500GB model for multiple PCs, Replica provides more than a reliable backup and recovery system, it also offers piece of mind.

In Brief

- Effortless, automatic backup for EVERYTHING on your PC's hard drive including the operating system, programs and settings.
- Simply plug in a single USB cable, click OK, and you're backed up — no tedious installation, nothing to configure.
- Drag-and-drop from your backup copy to effortlessly retrieve accidentally deleted files.
- Easily recover from a PC crash by restoring your entire system.
- Backed up files are password protected for security.
- No maintenance necessary, automatically removes the oldest backed up versions of files to free space.
- Multi-PC version includes a convenient vertically standing dock. (Pictured below).

Seagate®

http://www.seagate.com

letter of the month prize

Thanks to Targus, this month's letter of the month prize winner will receive a 10.2in Crave Netbook Bag (valued at $49.95) and 15.6in Laptop Slipcase (worth $49.95). These cushioned bags are made of durable, water and stain-resistant nylon with a scratch-resistant microfibre interior. Both bags offer double foam padding and a front zippered compartment to store accessories.

National broadband

LETTER OF THE MONTH

Sender: **Peter Neumann** / Internet

It is more than two years since the Labor government was elected. One of the key promises was to improve our national broadband and build a fibre optic link to our homes. It was a very ambitious plan and I was impressed — I believed it. But what has happened since then is hard to understand. There's no broadband in sight, not even a plan, no timetable and now not even promises.

Not one metre of fibre optic cable has been laid in Victoria and there is no proposal to update or fix wireless broadband. There's no word from the government to suggest this will change.

It is so incompetent and yet nobody seems to care. Not one magazine, not one newspaper, radio or television station raises the question: where is our promised broadband? Are journalists uninterested or are they just ignorant? This letter is a desperate action to start to put pressure on our lazy government and make them accountable for a promise they made. The internet filter is a smokescreen and not related to the national broadband network. Can somebody please explain this?

The writer of the best letter to PC User *each month wins a prize. Just send your letter of no more than 300 words to* PC User *(see 'Contact us' on page 6), and please include your postal address and daytime telephone number. Entry is open to all residents of Australia other than employees of ACP Magazines. Entries for May close on March 15. The judges' decision is final. All entries become the property of ACP Magazines.*

DUST & HEATSINKS

Sender: **Stephen Bitmead** / Uleybury, SA

Your article 'Dust & heatsinks don't mix' (see *PC User* February, page 75) really struck a chord with me. Laptops are a far bigger problem with dust and heatsinks mixing, especially when the air intake fans are on the bottom of the machine, as close as they can possibly get to any dust.

I owned a Dell Inspiron 9400 laptop with a 256MB GeForce Go7900 graphics chip. It performed very well for a few years and then started showing artefacts and crashing when loaded up. It seemed to be overheating and wouldn't run for more than a few minutes unless I sat it on a cooling brick. I stripped it down to discover the CPU and graphics heatsinks fully blocked with lint and dust. I cleaned it out and it returned to normal, but unfortunately, it died soon after of graphics card failure. The lesson learned here is that I should have cleaned the laptop more regularly and yes, it was three months out of its three-year warranty. My point is while it isn't too daunting a job for the average Joe to clean the heatsinks on a desktop PC, as your article advises, it's a far trickier job on a laptop. The average punter just wouldn't be prepared to strip a laptop, let alone even realise they should clean the heatsinks.

Why can't laptop manufacturers include small access panels for cleaning these heatsinks? Perhaps the cost is a factor. Well, after seeing my $3,600 laptop go up in smoke, I'd happily pay $5 more for access holes. I recently discovered a free app called I8kfanGUI (from **www.diefer.de/i8kfan**) that shows a Dell laptop's CPU, GPU, memory, chipset and hard drive temperatures, plus it has a settable fan control. I think a simple app that gives a warning to take your laptop to a repair centre for cleaning would be a good idea for all notebook owners.

AMAZON KINDLE

Sender: **Peter Gilmore** / Corrimal, NSW

Robert Lang's letter ('Pointless products, *PC User* March, page 12) was completely off-base. A Kindle ebook reader is exactly what it is called: an ebook reader. Of course an ebook reader can't run 3D games or play movies.

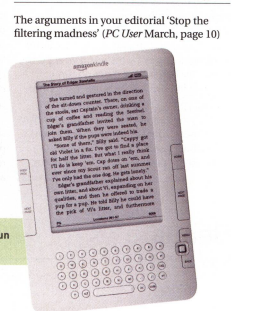
The Kindle, which weighs less than 250g, has a screen designed to be friendly on the eyes and be readable in sunlight. Backlit, bright white screens are both terrible in sunlight and hard on the eyes. A Kindle, utilising a type of electronic ink display, is cutting-edge technology. It allows for almost a week of reading without charging and is readable in the sunlight or, more traditionally, in bed with a lamp. It is a handheld library with new-release titles available for US$11.99 and others for less than US$5.99.

Saying that the Kindle has strongly limited playback capabilities is like saying a toaster is a terrible kettle. The Kindle does what it advertises to do and it does it very well. If you want an ebook reader that has access to a large library of books at an excellent price on a display that is incredibly friendly to the eyes, then get a Kindle. If you want a media player or a game device, fork over a heap of money for an Apple iPad. Do what you want, but please, don't put down a device that works and works well.

INTERNET FILTERING

Sender: **Peter Kentley** / Canterbury, Vic

The arguments in your editorial 'Stop the filtering madness' (*PC User* March, page 10)



The Amazon Kindle won't play movies or run 3D games, but it can display your ebooks.

don't stack up. First, your technical arguments pale into insignificance compared with the social arguments that children need to be protected from the worst of the net. Screening is not just a parental responsibility — it's both a parental and government responsibility to take action to limit the garbage being pumped into the public space. Every aspect of life is regulated for the common good and the internet is no exception.

Secondly, your technical arguments don't stack up. Safety is not achieved through technical perfection, but through probabilities. In other words, internet filtering will dramatically reduce the probability of the innocent being damaged by unsolicited exposure to unacceptable content, while the probability of reduced internet speed is kept acceptably low.

Finally, once filtering legislation is in place, it will be an incentive to drive more efficient filtering technology in coming years. Rather than slating the government for seeking to act responsibly, you should be commending it for its concern for the welfare of children and help it implement the best technologies that will get the job done with the least inconvenience.

February 2010 subscription promotion winners

ACT: P. Knights, Chisholm. **NSW:** C. Moss, Liverpool; J. Marshall, Revesby; C. Vimpany, Glen Innes; J. Mawbey, Picton; T. Bothwell, Freshwater; A. King, Seaforth; A. Rania, Sans Souci; M. Rowe, Lake Haven; A. Apps, Leumeah; N. Vilcins, Winston Hills; N. Hamilton, Fishing Point; B. Bicknell, Horningsea Park; M. Mifsud, Kellyville; M. Tancred, Port Macquarie; M. Piper, Como; G. Grien, Summer Hill; A. Mckenzie, Tenterfield; G. Neubronner, Ashfield; P. Harrington, North Balgowlah; J. Hood, East Ryde; V. Astall, Port Macquarie; L. Brigden, South Penrith; T. Spudic, Dural; C. Seccombe, Pyrmont; G. Harding, Toormina; L. Webb, Gowrie; K. Easterbrook, Erindale; K. Mclaren, Tamworth; M. Collin, Carlingford; S. Carson, Lithgow; G. Reibelt, Wetherill Park; L. Ruth, Coogee; R. Reeves, Jerrabomberra; N. Jerath, Belrose; N. Smith, Toormina; O. Vornegger, Ewingsdale; C. Salonikas, Tempe; P. Cheng, Roseville; Reserve Bank of Australia, Sydney; Nielsen Media Research, North Ryde; Jannali High School, Jannali; D. Hogg, Sydney; K. Yiu, Epping; A. Casamento, Melrose Park; F. Wales, Marrickville; N. Arrage, Westmead; J. Jacobs, Five Dock; W. Hwang, North Ryde; H. Wong, Kensington; Westmead Hospital, Westmead. **NT:** R. Fitzsimmons, Casuarina PO; A. Rushton, Winnellie. **QLD:** W. Stillman, Maryborough; P. Kennedy, Cooee Bay; T. Millward, Everton Park; H. Wippell, Alderley; M. Lonsdale, Rangeville; P. Messer, Wavell Heights; D. Krusi, Chapel Hill; S. Edridge, Albany Creek; R. Thorburn, Shailer Park; M. Cairns, Mackay; B. Ramsay, Tewantin; M. Foster, Samford Village; S. Hollingsworth, Murrumba Downs; P. Brooks, Greenslopes; T. Reilly, Arundel; L. Meakins, North Toowoomba; A. Powell, Nerang; R. Gray, West Mackay; L. Coleman, North Lakes; Sunshine Group Pty Ltd, Southport BC; R. Collier, Runaway Bay; J. Priebe, Dalby; D. Everett, Mcdowall; C. Gillott, Keperra; N. Vrbancic, Hope Island; C. Brumm, Gumdale. **SA:** J. Kirby, Hallett Cove; J. Sharples, West Beach; D. Schriever, Seaford Rise; P. Walker, Golden Grove; I. Hume, Adelaide; T. Veend, Minlaton; Berri Library, Berri; G. Cullen, Brighton. **TAS:** J. Hen, Upper Burnie; C. Chessman, Longford; W. Jones, Penguin; A. Brockbank, Burnie; J. Watson, Carlton; S. Mooney, Kingston Beach. **VIC:** P. Newman, Frankston; K. Mills, Grovedale; K. Warykowski, Glen Waverley; M. Hendy, Naring; V. Kenney, Dromana; G. Soitaridis, Melbourne; K. Fallick, Armadale North; P. Kohn, Cranbourne; H. Nguyen, Maidstone; Z. Lake, Noble Park North; G. Murtough, Bentleigh East; G. Smales, Berwick; S. Turner, Kalimna West; M. Horn, Ringwood; J. Hallgarten, Nunawading; P. Matthews, Montrose; B. Noble, St Arnaud; M. Boundy, Keilor East; N. Smillie, Waterways; M. McDonald, Noriane; B. Pearson, Doncaster; P. Grobler, Braeside; J. Mcmorrow, Glen Iris; R. Jones, Wantirna; S. Palmer, Moonee Ponds. **WA:** H. Blair, Wanneroo; J. Oldham, Albany; B. Collins, Ashfield; T. Napier, Denmark; D. Golding, Geraldton; K. Franklin, Millbridge; N. Aravidis, Carine; S. Mortimore, Leederville; J. Dewitt, Marangaroo; Mundaring Library, Mundaring; R. Waylen, Dalyellup; A. Malcolm, Morawa; G. Loosen, Ferndale; M. Pokucinski, Roleystone.

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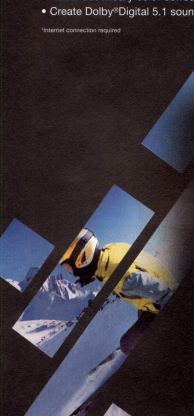
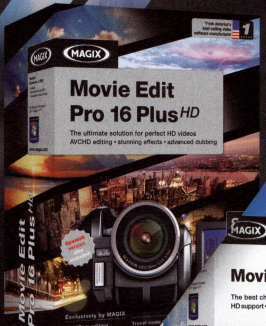
[1]Internet connection required





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TEST BENCH

USB 3.0 impresses

The ***PC User* team** tests the latest hardware and software, including the first USB 3.0 hard drive on the market.

WESTERN DIGITAL MY BOOK 3.0

PRICE $300 / **WEB** www.wdc.com

We've tested motherboards with built-in USB 3.0 ports, but without anything to plug into them, there hasn't been much incentive to upgrade. This external desktop hard drive is the first officially launched product we've seen. External hard drives are one device in particular that have suffered from USB 2.0's limited bandwidth, confining data transfer speeds to a maximum of 30MB/s. USB 3.0 increases this bandwidth tenfold, from 480Mbps (60MB/s theoretically; half that in reality) to 4.8Gbps (600MB/s maximum). The My Book 3.0 screams along when plugged into a USB 3.0 port, leaving USB 2.0 drives looking devastatingly slow. For those who don't have a USB 3.0-capable PC, this model is bundled with a two-port USB 3.0 PCI Express (PCI-E) card. It took just a couple of minutes to install in our testing and should work on pretty much any desktop PC built in the last five years. The My Book 3.0 is also backwards-compatible, so you can plug it into USB 2.0 ports. While USB 3.0 delivers more power (900mA versus 500mA) it's not enough to run 'desktop' external drives like this one — you still need an external power brick. For performance testing, we ran the My Book 3.0 through our file copy benchmarks three times: once on a USB 2.0 port, once using a P55 motherboard and the USB 3.0 PCI-E card, and once using a motherboard with native USB 3.0 support (the ASUS P7P55D-E PRO). We found that on the latter two, it was typically between 1.5 to two times faster in both read and write tests compared to USB 2.0. There wasn't a lot of difference between using onboard USB 3.0 and the PCI-E card except in multi-file writing, where the onboard proved to be about 15% faster. All in all, this is an impressive first showing for USB 3.0 devices. While it costs a little more than similar USB 2.0 drives, if you need a backup drive that's screamingly fast, this one's a fantastic performer.

— Dan Gardiner

PC User says: Costs a little more than older drives, but can deliver twice the speed.

TEST RESULTS

	USB 2.0	USB 3.0 (PCI-E expansion card)	USB 3.0 (onboard)
700MB single-file			
– Average read (MB/s)	25.5	54.67	51.85
– Average write (MB/s)	25.48	46.02	44.95
1GB assorted files			
– Average read (MB/s)	23.77	46.55	46.42
– Average write (MB/s)	22.54	36.74	42.98

USB 2.0 and USB 3.0 (PCI-E expansion card) tests performed on Gigabyte GA-P55-UD4 with a Core i5 750 CPU, 4GB DDR3-1333 RAM, Samsung HD501LJ 500GB hard drive and Windows 7 Ultimate 64-bit. USB 3.0 onboard tests performed with identical hardware on ASUS P7P55D-E PRO motherboard.

_UP & COMING

Nvidia Optimus

Prior to the imminent launch of its DirectX 11 GPU lineup, Nvidia has recently been making a lot of noise about its new Optimus technology for notebook GPUs. Aimed at notebook users with machines containing both integrated and discrete GPUs, Optimus supposedly makes switching between 'battery-friendly' integrated graphics and more capable (yet power-hungry) discrete GPUs a seamless non-issue. Where previously this switch had to be accompanied by either a full system reboot or surprisingly troublesome manual software switching, often necessitating the closure of active programs, Optimus promises to dynamically power the GPU up and down as applications that benefit from the extra grunt are launched or shut, respectively. We received notebooks featuring the technology slightly too late for an in-depth look in this issue, but the effect does seem quite transparent and could be a potential boon for battery-conscious power users — look out for our full review soon. *Dominik Krupinski travelled to the Optimus press briefing in the US as a guest of Nvidia.*

PATRIOT VALKYRIE NAS

PRICE $200 / **CONTACT** RECTRON / **PHONE** (03) 8545 2833

WEB www.patriotmem.com

The Valkyrie is Patriot Memory's second network-attached storage (NAS) device and impressively, it looks to be an improvement on the Best Buy award-winning Corza unit we reviewed in *PC User* October 2009 (page 51). It's a dual SATA II drive unit with support for RAID 0, 1 and JBOD, with twin USB ports for external storage, plus the now-standard Gigabit Ethernet networking port. The Valkyrie has a faster 500MHz embedded processor (the Corza reportedly only had a 400MHz chip) with 128MB of onboard memory. We used a single 1,000GB Samsung HD103SJ hard drive in testing, along with an Acer Aspire X3900 desktop PC and a Belkin Gigabit Ethernet router to create a local area network. The Valkyrie's write speed for our 5GB mixed file test was a decent 6 minutes 39 seconds using Windows Explorer. The read time for the same 5GB of files was 5 minutes 44 seconds — they're good results, given how cheap this unit is. It's also well stacked with extras, such as PC-less downloading of BitTorrents, as well as HTTP and FTP transfers. It has a built-in media server and an iTunes server to create your own mega-media storage. It comes with a simple drive-mapping utility that works nicely (even under Windows 7), as well as a web browser interface for setting up drives, shares, passwords and general administration. Drive installation requires a Phillips head screwdriver and although it's not quite as easy to install as the similar D-Link DNS-323, it's not far behind — and Patriot's is significantly cheaper to boot.

— Darren Yates

PC User says: An excellent two-bay NAS that's loaded with features at a cracking price.

PATRIOT: TEST RESULTS

5GB write time (min:sec)	6:39
5GB read time (min:sec)	5:44

Test system: Acer Aspire X3900 desktop PC, Belkin ADSL2+ wireless Gigabit router, 1,000GB Samsung HD103SJ hard drive.

ASUS EEE PC 1201N

PRICE $699 / **CONTACT** ASUS / **PHONE** 1300 278 788

WEB www.asus.com.au

ASUS is joining the growing crowd of sub-$1,000 12in notebooks, although it's doing so with what is essentially another netbook. The 1201N looks the goods with its 1,366 x 768-pixel LCD panel, HDMI output, Windows 7 Home Premium and 2GB of RAM. However, our enthusiasm is somewhat tempered by its use of Intel's 1.66GHz Atom 330 CPU. That chip has been combined with Nvidia's ION graphics chip, which claims to improve graphics performance, but for normal application use, it doesn't do much, as our benchmark results show. The one thing that keeps this unit in the hunt is the price tag: at $699, we consider it just competitive. Considering that MSI's Wind12 U200 notebook costs just $200 more, the 1201N starts to pale. The 63Wh Lithium Ion battery delivered 3 hours 16 minutes, which is over an hour less than the U200 achieved in the same test. We think Intel's Pentium SU4100 dual-core CULV CPU essentially supersedes the Atom/ION combination on the vast bulk of applications. Still, that $699 price tag certainly helps boost this one's appeal.

— Darren Yates

PC User says: A 12in netbook for $699 is decent value, but an Atom CPU only gets you so far.

NOTEBOOKS: HOW THEY THEY PERFORM

	Tested this month	For reference
Test results	**ASUS Eee PC 1201N**	**MSI Wind12 U200**
Price	$699	$899
UserBench Encode 2009 (score)	8.95	12.73
– Audio component (score)	5.55	13.08
– Audio encoding time/rate (min:sec/MB/s)	8:33/1.26	3:37/2.99
– Video component (score)	15.7	26.6
– Video encoding time/rate (min:sec/fps)	4:18/29.01	2:32/49.14
UserBench Image 2 score/time (min:sec)	10.53/15:34	19.90/8:14
UserBench Battery 2008 (hours:min)	3:16	4:22

For UserBench tests with time-based scores, lower is better (except UserBench Battery); for UserBench tests with MB/s and fps scores, higher is better.

SAMSUNG N310

PRICE $699 (NETBOOK ONLY) / **CONTACT** SAMSUNG
PHONE 1300 362 603 / **WEB** www.samsung.com/au

In some ways, the N310 looks a bit like a mini version of the old Apple clamshell iBook. Under the bonnet, this one is essentially bog-standard netbook fare, with a 1.66GHz Atom N280 processor, 1GB of memory, 160GB Samsung hard drive and Windows XP Home Edition SP3 operating system. The screen is also the standard 10.1in widescreen panel with 1,024 x 600-pixel resolution. While its weight comes in at 1.2kg, the unit is only equipped with a basic four-cell 29Wh battery. Still, it didn't perform too badly, reaching 2 hours 48 minutes on our UserBench Battery testing. What makes this one a little different is that Samsung has teamed up with Telstra to include a built-in Telstra Next G wireless modem inside the N310, including SIM card and connectivity software ready to go. The N310 on its own sells for $699, which is a bit on the expensive side for a basic netbook, but you can get it with the Next G wireless modem from Leading Edge Telecoms for $71.46 per month with 400MB of data (totalling $1,716 over 24 months). That's basically the $699 price for the netbook, $29.95 per month for Telstra's BigPond Liberty 400 wireless internet plan and $299 for the built-in modem. It's a cheap way to get wireless internet access and a computer in one deal, but not quite great value in our view. Also, a download allowance of 400MB isn't much if you're constantly on the road.

— Darren Yates

PC User says: An expensive netbook now available with marginal-value wireless plan.

SONY VAIO VPCX113KG

PRICE $1,599 / **CONTACT** SONY / **PHONE** 1300 137 669
WEB www.sony.com.au

Sony's VPCX113KG is about as thin and light as we've seen in any notebook. Barely 10mm thick, this one weighs in at just 648g. To give you an idea, that's about 30g lighter than Apple's iPad. If you look at it from a performance perspective, you're getting a 1.86GHz Intel Atom Z540 processor in an 11.1in widescreen netbook for $1,600. On that score, it doesn't look like great value. However, the key thing is that very light weight and to get that, Sony has used a 64GB SanDisk P2 solid-state drive. Forget drive performance — this is all about keeping the weight down. Another trick Sony has used is the Lithium Polymer battery. This type of battery can be folded and moulded far more easily than Lithium Ion and here it's helped the VPCX11KG keep a similar thickness to a typical notepad. Still, the battery is only a 15Wh (7.4V/2,050mAh) unit that only managed 2 hours 12 minutes on our UserBench Battery testing. Given the tiny battery capacity, it's not a terrible result, but we'd really want at least 3 hours, especially at this price. Sony has managed to sandwich in the basic ports including VGA, Ethernet, two USB and a flash card reader. The inclusion of the Windows 7 Home Premium (32-bit) operating system and 2GB of memory should bode well for longevity, although with a UserBench Encode score of just 7.6, you're not looking at record-breaking speed here by any stretch of the imagination.

— Darren Yates

PC User says: Lighter than an iPad, but below-average battery life and slow, even for a netbook!

TEST RESULTS

	Samsung N310	Sony VAIO VPCX113KG
Price	$699	$1,599
UserBench Encode 2009 (score)	8.68	7.6
– Audio component (score)	6.06	4.86
– Audio encoding time/rate (min:sec/MB/s)	7:50/1.38	9:46/1.11
– Video component (score)	12.47	12.59
– Video encoding time/rate (min:sec/fps)	5:25/23.04	5:22/23.27
UserBench Image 2 score/time (min:sec)	8.18/20:03	8.14/20:09
UserBench Battery 2008 (hours:min)	2:48	2:12

For UserBench tests with time-based scores, lower is better (except UserBench Battery); for UserBench tests with MB/s and fps scores, higher is better.

PC USER BEST BUY

80%

SONY BLOGGIE MHS-PM5K

PRICE $299 / **CONTACT** SONY
PHONE 1300 137 669
WEB www.sony.com.au

Sony's digital cameras have always suffered from the company favouring its Memory Stick format over the more popular and cheaper SD card. In January, Sony announced it would start producing its own SD cards, a move that potentially signals the slow phasing out of Memory Stick. Simultaneously, it launched the Bloggie, a camera designed to shoot HD video and 5MP still images, which offers SD as a format alongside Memory Stick. The Bloggie uses a familiar rotating lens model to ensure compact design and also allows the attachment of an optional accessory for panoramic shooting. The built-in USB arm enables PC charging and connection without a separate cable, though that won't work as well with vertical USB slots. The camera slides easily into a shirt pocket, but (like most rivals) causes arm strain if you hold it for extended periods of shooting without a tripod. The automatic face recognition features worked well in our testing. The bundled PMB media manager software wouldn't read from the SD card with the camera connected via USB, though it would when the card was plugged into a notebook card reader slot. Its YouTube upload feature was also unable to handle large videos, which is problematic in a camera aimed at producing high-defiition video. Despite those minor complaints, the Bloggie is well thought out and intuitive and worth considering if you want a portable camera for video on the go.

— Angus Kidman

PC User says: **An easy-to-use entry into the SD card consumer video camera market for Sony.**

85%

WESTERN DIGITAL MY PASSPORT ESSENTIAL SE 1TB

PRICE $285 / **WEB** www.wdc.com

Until recently, taking 1TB of data on the road meant juggling multiple smaller hard drives or lugging a 1kg desktop-type unit with a power brick in tow. Western Digital's new My Passport drive is small enough to fit into any handbag (or manbag) and weighs a measly 230g. In terms of extras, it's fairly light, but it does include Western Digital's easy-to-use backup software, which covers all the basics. In terms of performance, it's pretty much on par with most other USB 2.0 portable drives — at most you'll get around 25-30MB/s read/write speeds; writing many small files can drop this down to around 20MB/s, though. (At these speeds, it'll take about 8 hours of constant transferring to fill the drive's 1TB capacity). About the only problem we had was an occasional hitch with the USB cable (a small Micro-B model), which was a little loose in the drive's socket — when not inserted carefully, this occasionally prevented it from connecting and powering up properly. We'd suggest unplugging it when travelling with the drive. At $285, it's also more expensive than the external desktop drives, the cheapest of which can be found for around $200. There's always a price to pay for portability, and compared to similar drives it's not too bad, with a cost per GB of around 31c — its 500GB Passport siblings sell for around $180 online, or 36c per GB.

— Dan Gardiner

PC User says: **Packs a lot of data in a very small size.**

PORTABLE DRIVES: HOW THEY PERFORM

	Hitachi SimpleTOUGH 500GB	Western Digital My Passport Essential SE 1TB
700MB single file		
– Average read (MB/s)	26.43	25.27
– Average write (MB/s)	25.46	24.74
1GB assorted files		
– Average read (MB/s)	25.31	24.06
– Average write (MB/s)	22.52	21.07

All tests performed on Gigabyte GA-P55-UD4 motherboard with Core i5 750 processor, 4GB DDR3-1333 memory, Samsung HD501LJ 500GB hard drive and Windows 7 Ultimate (64-bit).

80%

HITACHI SIMPLETOUGH 500GB

PRICE $160 / **WEB** www.hitachigst.com

Damage-resistant 'ruggedised' portable hard drives aren't particularly new. Hitachi's new SimpleTOUGH drive essentially uses a slightly bulky enclosure combined with internal rubber bumpers to absorb shocks and reduce the impact on the hard drive inside. Those internal bumpers are impressively fat and two large pieces of rubber are also used externally to bracket either side of the casing. We tested the unit's toughness by repeatedly dropping it from waist height off a desk onto carpet five times (Hitachi claims to have drop-tested them from 3m). It didn't skip a beat when we plugged it back in, spinning up and reading and writing data flawlessly. We noticed that the rubber side bumpers were generally the first things to make contact with the ground and were therefore able to absorb a lot of the shock. In our speed tests, it did reasonably well, beating out the Western Digital by a small margin — as with most portables, it's ultimately limited by the USB 2.0 bus. Our one gripe with the SimpleTOUGH is its built-in cable. While having it integrated into the unit means you won't lose it, it's a scant 15cm long, making it near impossible to plug into the back of a PC without having the drive dangle precariously — it's a design that's really only suitable for use with notebooks. If you plan on buying one of these, we'd suggest investing in a thick 30cm USB extension cable to go along with it.

— Dan Gardiner

PC User says: **Definitely tough and it performed quite well.**

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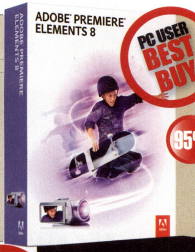
Video editing tools

Philip Moore reviews the latest consumer video editing software.

Once again it's time take a look at what's happening in the highly competitive world of enthusiast video software. This is software designed to help the home user, small business or other non-professionals edit and share their videos. These programs aim to strike a balance between ease of use and high functionality. Most use a step-by-step approach and they've all pretty much got the basics, from capture to editing to final output on DVD or the web. Several of the programs we looked at have professional siblings they can draw on for advanced tools, making these programs very powerful for the price.

ADOBE PREMIERE ELEMENTS 8

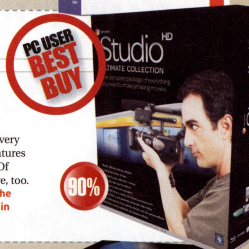
PRICE $137.50; BUNDLED WITH PHOTOSHOP ELEMENTS 8, $207
CONTACT ADOBE / **PHONE** 1800 614 863 / **WEB** www.adobe.com/au



Premiere Elements has been at the forefront of consumer video since its release. It benefits by inheriting technologies from big brothers Premiere Pro and After Effects, while offering a friendlier interface for enthusiasts. There's good integration with Photoshop Elements 8 (PE8); in fact many of the features of the Organizer apply here. This version also adds auto-fix features. Smart Fix is for shaky or low-contrast clips, while Smart Trim will remove unwanted footage. SmartMix will automatically mix the sound of your project. Something unique in a budget program like this is motion tracking, normally found in high-end compositing tools. This allows you to have graphics, thought bubbles or even video effects move with your subject in a clip. With this comes the ability to have effects applied to specific areas of the frame. The program offers a good mix of auto tools for beginners and advanced tricks for those wanting to do more — all aimed at making your job easier and quicker. **PC User says: Ideal for those who want professional results.**

PINNACLE STUDIO 14 HD

PRICE ULTIMATE, $169.95; ULTIMATE COLLECTION, $249.95
CONTACT LAKO PACIFIC / **PHONE** 1800 657 601 / **WEB** www.pinnaclesys.com



Pinnacle Studio distinguishes itself by offering a powerful video editor with an excellent package of high-end features and bundled extras. These include a green screen cloth, professional Magic Bullet Looks plug-in effects, and now 5.1 surround sound mixing and Particle Illusion effects. This latest release makes a whole raft of general improvements to the interface, it adds a special facility for capturing stop-motion animation, titles can now be animated, and it supports export for Wii, PS3 and Xbox. There are lots of new templates for DVDs and the Studio's unique Montage feature, plus image stabilisation inherited from big brother Avid. It's not as spectacular an update as rival tools perhaps, and there are still some areas that lag behind, but it has some very powerful and unique features for serious enthusiasts. Of course, it costs a bit more, too. **PC User says: Some of the most powerful features in an enthusiast program.**

MAGIX MOVIE EDIT PRO 16 PLUS HD

PRICE $149.95 / **CONTACT** QV SOFTWARE / **PHONE** (02) 9748 2555 / **WEB** www.magix.com

We've been very impressed with Movie Edit Pro's range of features, bundled tools and competitive price point. This latest release adds several new features that keep it in line with rival tools — it offers YouTube HD and Vimeo export, and Blu-ray and AVCHD disc authoring. It already had advanced tricks like chroma key and alpha channel support, keyframable effects, multiple-camera editing and image stabilisation. This release adds a travel route animation tool and secondary colour correction, usually only found in high-end grading suites. Improvements have been made to the title editor and audio monitoring, too. Bundled are several imaging tools, a PC benchmarking suite and iClone4, an excellent 3D modelling and animation tool. It doesn't hold your hand as much as other programs, so it might take some getting used to for newcomers. **PC User says: This one is for the serious enthusiast.**

COREL VIDEOSTUDIO PRO X3

PRICE $169 / **CONTACT** LAKO PACIFIC / **PHONE** 1800 657 601 / **WEB** www.corel.com.au

80%

One of the big new features of this latest release, according to Corel, is a near doubling in speed. There's a new Express mode for those who just want to knock something together really quickly. Proxy editing is something most programs at this level don't do, which makes VideoStudio a better choice for those editing HD footage on older, slower machines.

Other new features include copying attributes from clips, new filters like RotoSketch and a collection of NewBlue plug-ins like PiP Animator. The SmartSound music generator is now included, along with two extra audio tracks. You can now output to Vimeo, Flickr, YouTube and Facebook directly, and Blu-ray and HD support is stronger, with DVD Factory Pro 2010 included for full authoring capabilities. Support for stop-motion animation and other features make this a great all-rounder that will serve both beginners and more ambitious users. That said, the competition is heating up and VideoStudio is no longer leading the pack.

PC User says: A good update with some cool new features.

SONY VEGAS MOVIE STUDIO 9

PRICE $119; PLATINUM, $219; PLATINUM PRO, $289 / **CONTACT** NEW MAGIC

PHONE (03) 9722 9700 / **WEB** www.sonycreativesoftware.com

80%

This is perhaps the most flexible of these enthusiast programs, though some see it as lacking in support and guidance for beginners. It doesn't offer as many auto features, or have full built-in DVD burning (it supplies DVD Architect Studio for that). It hasn't even been updated in the past year like all the other programs reviewed here. Nevertheless, it still has the best audio mixing features of any of these tools, an intuitive timeline and is bundled with Cinescore Studio for creating musical soundtracks, as well as Sound Forge Audio Studio for serious .wav file editing. Overdue for an update, we look forward to reviewing version 10 in a future issue. An excellent program in many ways, we hope it catches up some of the ground it has lost.

PC User says: A good choice for those who don't need as much hand-holding.

CYBERLINK POWERDIRECTOR 8

PRICE $119.95 / **CONTACT** LAKO PACIFIC / **PHONE** 1800 657 601 / **WEB** www.cyberlink.com

75%

This program doesn't have the benefit of a professional counterpart it can pillage for features, but consumer video is an area CyberLink specialises in, offering a wide range of tools, including PowerDVD. It holds its own with features like HD camera support, built-in DVD and Blu-ray creation, slideshows and a good range of effects including video stabilisation. This update provides extra tracks on the timeline (nine video and four audio), simple particle effects, YouTube HD and Facebook export, and a number of other useful features. These make it a good program and probably more than enough for a lot of people, but when compared to the others reviewed here it's barely keeping up. It just can't compete with the advanced features rivals are now adding.

PC User says: A worthy upgrade for those with simple needs.

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Budget flyers

Darren Yates lines up 10 of the latest desktop PCs priced under $1,500.

With so many new notebooks running around, you could be forgiven for thinking the PC is finished as a useful computing platform. Thankfully, that's complete rubbish.

What is true is just how much bang for your buck you can get in a desktop PC.

In this roundup, we found four systems with amazing features and speed to burn. Speaking of burning, it looks as though LG all but owns the OEM market with its popular GH22NS50 DVD burner appearing in seven of the 10 systems we tested.

You can read all about our benchmarks, including our brand new UserBench Image 2, on page 6. In the meantime, read on for some mouth-wateringly good value for under $1,500.

PACSTAR AUSTRALIA I5 BEST VALUE PACK

PRICE $1,499 / **CONTACT** PACSTAR AUSTRALIA / **PHONE** (02) 9868 6962
WEB www.pacstarcomputer.com.au

The i5 Best Value Pack from Pacstar was the better of that vendor's two systems submitted this month, joining a list of models with an overclocked quad-core Intel Core i5 750 processor. Pacstar got the CPU up to 3.6GHz and, in combination with the AMD Radeon HD 5770 graphics card, it delivered the best high-end gaming performance for a 5770-based system in this roundup. This one has all the features, including 2,000GB of storage, a digital TV tuner card, wireless networking and 4GB of memory. Importantly, you also get the 64-bit version of Windows 7 Home Premium to make use of all that memory. Overclocking the processor to 3.6GHz saw this one deliver excellent all-round application performance, too. If you can stand overclocking, this chip delivers far better value than the Core i5 600 series in our view, delivering excellent video encoding speed. You're not going to go too far wrong here. For serious high-performance gaming, you'll probably still want a Radeon HD 5850 graphics card under your belt, but when you look at the overall combination of features and performance, this system is one of two that are very hard to beat.

PC User says:
Features and speed to burn make this a cracker of a PC.

PC EXPRESS INVADER 508B

PRICE $1,499 / **CONTACT** PC EXPRESS / **PHONE** (02) 9584 0567
WEB www.pc-express.com.au

There really was just a coat of paint between this PC eXpress system and the Pacstar i5 Best Value Pack. Like the Pacstar system, PC eXpress has a Core i5 750 quad-core processor cranked to 3.6GHz. However, with the same motherboard, graphics card, hard drives, LCD monitor size, operating system and DVD burner, it meant there were fewer differences than similarities between them. Both also have a digital TV tuner card and wireless networking. As for benchmark results, the only test where there was anything like a significant difference was on our new UserBench Image 2 test, where the Pacstar system took a minor lead. The Pacstar system also managed to get slightly more from its Radeon HD 5770 graphics card than PC eXpress did, but it's only a minor difference and you'd barely notice it. Again, the 64-bit version of Windows 7 Home Premium means you get to fully use the 4GB of memory supplied, and with 2,000GB of storage and the overall application and gaming performance available, you'd be happy with either of the top two systems.

PC User says:
Cut from the same cloth as the Pacstar system and excellent value.

TI COMPUTERS TI SUPER DELUXE 750

PRICE $1,499 / **CONTACT** TI COMPUTERS / **PHONE** (02) 9437 5437
WEB www.ticomputers.com.au

TI Computers couldn't quite match the feature lists offered by the top two systems this month, but what it missed there it picked up in performance. TI has been around a long time and knows which way is up when it comes to customising computing systems. That includes overclocking, and here it managed to crank up a Core i5 750 to 3.82GHz. Not only that, the system is an efficient performer, hitting the rare mark of 70 on our UserBench Encode test — you don't get there without knowing what you're doing. It also topped all the non-gaming benchmarks. Elsewhere, Nvidia's GeForce GTX 260 graphics card got up to 40fps on *Crysis* at 1,920 x 1,200 pixels, beating all but the Radeon HD 5850-based systems. The Super Deluxe 750 comes with a wireless USB dongle, but lacks a digital TV tuner card, which really is the only blight on what otherwise is a top PC.

PC User says: **Only a digital TV tuner card short of brilliant.**

80%

DCA COMPUTERS POWER ADVANTAGE NOVA

PRICE $1,499 / **CONTACT** DCA COMPUTERS / **PHONE** (02) 9634 2555
WEB www.dcacomputers.com.au

DCA Computers is one of the newer entrants into our 'Best-value PCs' roundup, but it's showing after just a couple of outings that it's on the right track. This Power Advantage Nova doesn't feature wireless networking or a digital TV tuner, but everywhere else it's a good performer. With Intel's Core i5 750 chip overclocked to 3.8GHz, it delivered a whisker of extra speed compared to the Pacstar i5 Best Value Pack at 3.6GHz. With a 24in widescreen ViewSonic LCD monitor and Radeon HD 5770 graphics card, plus excellent video encoding speed, it's a nice combination that ticks almost all the boxes. A slight reduction in gaming performance and the lack of extra features saw this slide down the leaderboard a little. With quite a few systems taking the overclocked Core i5 750 route, the tight competition meant extra features would be all that separated the top four systems. Still, this is a pretty decent PC overall.

PC User says: **This one has good bones but just needs slightly more flesh on them.**

85%

EXCEL COMPUTERS EXCEL AL-260

PRICE $1,499 / **CONTACT** EXCEL COMPUTERS / **PHONE** (02) 9649 6668 / **WEB** www.excelcomputers.com.au

With each of the Excel systems basically being variations on a theme, we think the AL-260 is the best value. It's another one of a couple of overclocked Core i5 661-based systems, but this time cranked up to 4.15GHz. However, with 2TB of storage, a TV tuner card, wireless networking and a 23in widescreen LCD, it's got a better balance of features. The Nvidia GeForce GTX 260 (216SP) graphics card delivered better gaming speed at 1,920 x 1,200 pixels than any of the Radeon HD 5770 systems. It has to be said that this isn't a DirectX 11-ready system, but we're yet to see hugely noticeable differences in image detail and quality. All three Excel systems came with only 2GB of memory, but with just a 32-bit operating system, that's about all you really need. We're not certain the Core i5 661 CPU is such brilliant value, even overclocked, compared to what you can do with a Core i5 750 chip these days.

PC User says: **This is a decent overclocked system, but it's still only dual-core.**

80%

EXCEL COMPUTERS EXCEL BV-650

PRICE $1,399 / **CONTACT** EXCEL COMPUTERS / **PHONE** (02) 9649 6668 / **WEB** www.excelcomputers.com.au

All three Excel systems feature dual-core CPUs, including this BV-650. The Core i5 650 got given the gun here, overclocked to just under 4GHz, and that got it to within a whisker of matching most of the overclocked Core i5 750 systems. But there's a significant difference — while the Core i5 650 delivered excellent audio encoding speed, it couldn't come close to quad-core systems on video encoding. As a result, we wouldn't choose this one if video conversion is a priority. The Radeon HD 5770 couldn't match the heroics of the GM-661's Radeon HD 5850 at 1,920 x 1,200 pixels on *Crysis*, with a sluggish 31.87fps. The 24in BenQ G2420HD monitor was a good inclusion, but you don't get a digital TV tuner card. Notable for its $1,399 price tag.

PC User says: **Fast overclocked performance for single-core-based applications.**

75%

EXCEL COMPUTERS EXCEL GM-661

PRICE $1,499 / **CONTACT** EXCEL COMPUTERS / **PHONE** (02) 9649 6668 / **WEB** www.excelcomputers.com.au

This was the more conventional of the two Core i5 661-based systems Excel sent in this month. With Intel's performance dual-core processor, Excel added a Radeon HD 5850 graphics card. It came close, but couldn't match the Mwave All-Rounder for 1,920 x 1,200-pixel gaming speed on *Crysis*. However, you get 2,000GB of storage, thanks to two 1,000GB Western Digital hard drives, along with a digital TV tuner and wireless networking. On the downside, you're only getting a 21.5in widescreen LCD and 2GB of memory; however, with only the 32-bit version of Windows 7 Home Premium, anything beyond 3GB would have been a waste anyway. If you're looking for something to do your video editing on, and you don't mind your CPU overclocked, there are far better options elsewhere, including Excel's other two PCs.

PC User says: A well-balanced system, but lacking zip, thanks to its standard-clocked dual-core processor.

75%

MWAVE ALL-ROUNDER

PRICE $1,499 / **CONTACT** MWAVE AUSTRALIA / **PHONE** (02) 9649 6184 / **WEB** www.mwave.com.au

Mwave is another new entry into our monthly 'Best-value PCs' roundup, but it did a quite decent system for its first effort, with the 1,000GB hard drive being the only obvious weak link. There are still plenty of compensatory features, including an ATI Radeon HD 5850 graphics card that delivered the best gaming result of the roundup on *Crysis* at 1,920 x 1,200 pixels at a tick under 49fps. You also get a digital TV tuner card, plus 802.11n-grade Wi-Fi networking. Intel's quad-core Core i5 750 isn't overclocked here (a surprise), which limited its overall application speed compared to other similar systems, but the fact that it topped the gaming charts shows this system has the wheels to get a wriggle-on. It also features the 64-bit version of Windows 7 Home Premium operating system. This is a good first effort — we hope to see them again.

PC User says: Topped the high-resolution gaming test, but just a little short on features.

70%

BEST-VALUE PCs: HOW THEY COMPARE

Model	DCA Computers Power Advantage Nova	Excel Computers Excel AL-260	Excel Computers Excel BV-650	Excel Computers Excel GM-661	Mwave All-Rounder
SPECIFICATIONS					
Processor	2.66GHz Intel Core i5 750 (overclocked to 3.8GHz)	3.33GHz Intel Core i5 661 (overclocked to 4.15GHz)	3.2GHz Intel Core i5 650 (overclocked to 3.96GHz)	3.33GHz Intel Core i5 661	2.66GHz Intel Core i5 750
Memory	4GB DDR3-1600	2GB DDR3-1333	2GB DDR3-1333	2GB DDR3-1333	4GB DDR3-1066
Motherboard	Gigabyte GA-P55-USB3	MSI P55-GD65	Gigabyte GA-H55M-UD2H	Gigabyte GA-P55A-UD3	Gigabyte GA-P55-UD3
Motherboard chipset	Intel P55 Express	Intel P55 Express	Intel H55 Express	Intel P55 Express	Intel P55 Express
Graphics card	1GB ATI Radeon HD 5770	896MB GTX 260 (216SP)	1GB ATI Radeon HD 5770	1GB Radeon HD 5850	1GB PowerColor Radeon HD 5850
Graphics chip	ATI Radeon HD 5770	Nvidia GeForce GTX 260 (216SP)	ATI Radeon HD 5770	ATI Radeon HD 5850	ATI Radeon HD 5850
Hard drive	2 x 1,000GB Western Digital Caviar Black SATA II (2,000GB – RAID 0)	2 x 1,000GB Western Digital WD10EARS SATA II (2,000GB)	2 x 1,000GB Western Digital WD10EADS SATA II (2,000GB)	2 x 1,000GB Western Digital WD10EADS SATA II (2,000GB)	1,000GB Seagate ST31000528AS SATA II
Optical drive	LG GH22NS50 DVD burner	LG GH22NS50 DVD burner	LG GH22NS50 DVD burner	LG GH22NS50 DVD burner	Optiarc AD-7240S DVD burner
Operating system	Windows 7 Home Premium (64-bit)	Windows 7 Home Premium (32-bit)	Windows 7 Home Premium (32-bit)	Windows 7 Home Premium (32-bit)	Windows 7 Home Premium (64-bit) (Windows 7 Professional as tested)
Screen	24in ViewSonic VX2443wm widescreen LCD	23in LG widescreen LCD	24in BenQ G2420HD widescreen LCD	21.5in LG 2243T widescreen LCD	22in LG W2253TQ-PF widescreen LCD
Wireless LAN	None	D-Link DWA-510 wireless PCI	D-Link DWA-510 wireless PCI	D-Link DWA-510 wireless PCI	TP-Link Wireless-N PCI adapter
Digital TV tuner	None	KWorld KWPC160T	None	KWorld KWPC160T	Compro VideoMate U80 HD
Warranty	One-year system, three-year CPU and LCD	One-year parts, three-year labour	One-year parts, three-year labour	One-year parts, three-year labour	One-year RTB
TEST RESULTS					
UserBench Encode 2009 score	66.65	64.2	64.43	51.78	48.44
– Audio component score	39.53	42.42	42.15	33.7	28.71
– Audio scores (min:sec/MB/s)	1:12/9.03	1:07/9.69	1:07/9.63	1:24/7.70	1:39/6.56
– Video component score	128.54	100.37	102.43	83.02	93.6
– Video scores (min:sec/fps)	0:31/237.46	0:40/185.41	0:39/189.23	0:48/153.57	0:43/172.91
UserBench Image 2 score/time (min:sec)	83.81/1:57	66.09/2:28	65.76/2:29	56.65/2:53	64.27/2:33
UserBench Security 3 score/time (min:sec)	56.02/5:50	49.17/6:40	49.78/6:35	46.26/7:05	50.71/6:28
UserBench Crysis 2008 (1,024 x 768/1,440 x 900)	71.84/50.95	59.76/52.08	69.10/48.89	66.00/60.15	74.15/65.09
UserBench Crysis 2008 (1,920 x 1,200)	33.64	37.71	31.87	46.91	48.93

PACSTAR AUSTRALIA I3 VALUE PACK

PRICE $1,499 / **CONTACT** PACSTAR AUSTRALIA / **PHONE** (02) 9868 6962 / **WEB** www.pacstarcomputer.com.au

The i3 Value Pack from Pacstar was left a bit underdone for general performance, thanks largely to its Intel Core i3 530 processor. This low-end dual-core LGA1156 chip is really little better than a Pentium Dual-Core E5400 in terms of application speed. Pacstar chose to combine the chip with a top-end ATI Radeon HD 5850 graphics card, so it did well in terms of gaming speed. Its UserBench Encode score at 36.63 placed it last in the roundup, whereas on our *Crysis* benchmark, the combination of the CPU and graphics card delivered the third best gaming score at 1,920 x 1,200 pixels — not that you'll need that resolution with the comparatively small 20in widescreen LCD monitor. There's also no wireless networking or digital TV tuner. The 2TB (twin 1,000GB hard drives) of storage is good, but there's not enough general speed to make it real value in our view.

PC User says: Intel's Core i3 530 processor doesn't do enough compared to others we saw.

NUBE SATURN 901

PRICE $1,499 / **CONTACT** NUBE COMPUTERS / **PHONE** (02) 8005 4485 / **WEB** www.nube.com.au

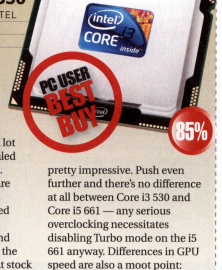
Nube Computers did a fair job of this Saturn 901 system, but it just can't compete with the leading models. The 3.33GHz Intel Core i5 661 performed to our expectations, but elsewhere the value was lacking. It started with the inclusion of only two 500GB hard drives for a total of 1,000GB (the majority of other systems deliver 2,000GB). There was no digital TV tuner card or Wi-Fi networking, which is fine if the system is loaded elsewhere, but with the monitor only a 21.5in type, there wasn't enough overall performance or features to make the $1,499 price tag look good against most of the other systems. We couldn't get *Crysis* running here due to a weird error we won't hold against it. The GTX 260 graphics card, although not DirectX 11-ready, should deliver similar speed to an ATI Radeon HD 5770. On the upside, this was the fastest standard-clocked system we saw.

PC User says: Needs more work in terms of overall value.

Nube Saturn 901	Pacstar Australia i3 Value Pack	Pacstar Australia i5 Best Value Pack	PC Express Invader 508B	TI Computers TI Super Deluxe 750
3.33GHz Intel Core i5 661	2.93GHz Intel Core i3 530	2.66GHz Intel Core i5 750 (overclocked to 3.6GHz)	2.66GHz Intel Core i5 750 (overclocked to 3.6GHz)	2.66GHz Intel Core i5 750 (overclocked to 3.82GHz)
4GB DDR3-1333	4GB DDR3-1333	4GB DDR3-1333	4GB DDR3-1333	4GB DDR3-1333
Asus P7P55-M	MSI P55-CD53	Gigabyte GA-P55A-UD3	Gigabyte GA-P55A-UD3	Gigabyte GA-P55A-UD3
Intel P55 Express	Intel P55 Express	Intel P55 Express	Intel P55 Express	Intel P55 Express
896MB ECS GTX 260	1GB Sapphire ATI 5850	1GB Sapphire ATI 5770	1GB ATI Radeon HD 5770	896MB ECS GTX 260
Nvidia GeForce GTX 260	ATI Radeon HD 5850	ATI Radeon HD 5770	ATI Radeon HD 5770	Nvidia GeForce GTX 260
2 x 500GB Hitachi SATA II (1,000GB – RAID 0) (2,000GB RAID 0 as tested)	2 x 1,000GB Seagate ST31000528AS SATA II (2,000GB – RAID 0)	2 x 1,000GB Seagate ST31000528AS SATA II (2,000GB – RAID 0)	2 x 1,000GB Seagate ST31000528AS SATA II (2,000GB)	2 x 1,000GB Seagate ST31000528AS SATA II (2,000GB – RAID 0)
Optiarc AD-7240S DVD burner	LG GH22NS50 DVD burner	LG GH22NS50 DVD burner	LG GH22NS50 DVD burner	BenQ DW2405 DVD burner
Windows 7 Home Premium (64-bit)	Windows 7 Home Premium (32-bit)	Windows 7 Home Premium (64-bit)	Windows 7 Home Premium (64-bit)	Windows 7 Home Premium (64-bit)
21.5in AOC 2236vw widescreen LCD	20in AOC 2036Va widescreen LCD	23in LG W2343T-PF widescreen LCD	23in Acer X233H widescreen LCD	24in AOC 2436Vwh widescreen LCD
None	None	TP-Link Wireless 54G PCI adapter	54Mbps wireless PCI adapter	TP-Link wireless USB
None	None	Leadtek 1000S	KWorld PlusTV DVB-T	None
One-year RTB	One-year RTB	One-year RTB	One year RTB, three-year labour	One-year RTB
53.41	36.63	66.44	66.27	70.31
34.41	25.32	39.45	39.36	41.76
1:22/7.86	1:52/5.78	1:12/9.01	1:12/8.99	1:08/9.54
87.21	53.35	127.86	127.41	135.17
0:46/161.11	1:16/98.55	0:31/236.20	0:31/235.36	0:30/249.71
57.09/2:52	36.37/4:30	87.73/1:52	82.68/1:59	89.31/1:50
47.74/6:52	33.65/9:44	55.55/5:54	55.27/5:56	56.61/5:47
DNF	51.73/47.37	78.43/55.93	74.42/52.91	72.56/58.35
DNF	44.64	37.05	35.02	40.88

Intel's new bargain

The ***PC User*** **team** tests the latest upgrade components, including Intel's new wallet-friendly Core i3 530.



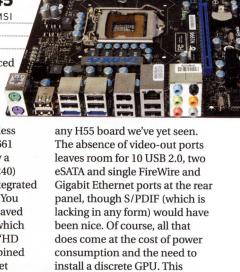
INTEL CORE i3 530

PRICE $160 / **CONTACT** INTEL
PHONE (02) 9937 5800
WEB www.intel.com

Intel's new dual-core, Hyper-Threaded Core i3 530 is essentially the same processor as the Core i5 661 we tested back in February (see page 22) — a chip that showed a lot of promise until Intel revealed its eye-watering $290 price. The only differences here are slower clock speeds across the both CPU and integrated GPU (down from 3.33GHz and 900MHz to 2.93GHz and 733MHz, respectively) and the omission of Turbo mode. At stock speeds, this is a substantial drop in performance. Having said that, if you're willing to overclock, that performance difference dissipates very quickly. We got our Core i3 to a stable 3.6GHz with practically zero effort using Intel's diminutive standard heatsink. At that speed, its Encode 2009 score of 56.92 was pretty impressive. Push even further and there's no difference at all between Core i3 530 and Core i5 661 — any serious overclocking necessitates disabling Turbo mode on the i5 661 anyway. Differences in GPU speed are also a moot point: Intel's GMA HD ably accelerates 1080p content and Picture-in-Picture, but it's pretty rubbish when it comes to 3D gaming. At $160, we'd recommend this CPU over the Core i5 661 any day.

— Dominik Krupinski

PC User says: This chip offers tons of overclocking headroom and at a good price.



MSI P55M-GD45

PRICE $155 / **CONTACT** MSI
PHONE (02) 9748 0070
WEB http://au.msi.com

We're not entirely convinced by Intel's 2010 Core i-series processors. Sure, the i3 530 is nice, but pricier chips? Not so much. For almost $50 less than a dual-core Core i5 661 ($285), it's possible to buy a quad-core Core i5 750 ($240) which, despite lacking integrated graphics, is faster overall. You can then put the money saved towards a discrete GPU, which will put Intel's integrated 'HD graphics' to shame. Combined with a good-quality budget motherboard, that makes for a very respectable system. For this reason, we think a motherboard like this P55M-GD45 makes a very compelling media PC alternative to a number of recently launched H55 motherboards. The P55M-GD45 offers good performance and superior connectivity to any H55 board we've yet seen. The absence of video-out ports leaves room for 10 USB 2.0, two eSATA and single FireWire and Gigabit Ethernet ports at the rear panel, though S/PDIF (which is lacking in any form) would have been nice. Of course, all that does come at the cost of power consumption and the need to install a discrete GPU. This board isn't hugely thirsty and any budget GPU will significantly outperform Intel's yawn-worthy GMA HD, so we think it's an alternative worth considering.

— Dominik Krupinski

PC User says: An inexpensive, well-featured microATX board. Could do with high-end audio connectivity, though.

CPUs & MOTHERBOARDS: HOW THEY COMPARE

Processor	AMD Athlon II X4 620	Core i3 530	Intel Core i5 661	Intel Core i5 750
Street price	$130	$170	$270	$250
Clock speed (GHz)	2.6GHz	2.93GHz	3.33GHz	2.66GHz
L2/L3 Cache	2MB/N/A	512KB/4MB	512KB/4MB	1MB/8MB
Number of cores/Hyper-Threading	4/No	2/Yes	2/Yes	4/No
TESTING SPECIFICATION				
Memory	4GB DDR2-800	4GB DDR3-1333	4GB DDR3-1333	4GB DDR3-1333
Motherboard	Gigabyte GA-MA790FX-UDP4	Gigabyte GA-H55M-UDH2	Gigabyte GA-P55-UD4	MSI P55M-GD45
Chipset	AMD 790FX	Intel H55	Intel P55	Intel P55
Graphics card	Nvidia GeForce GTX 285	Nvidia GeForce GTX 285	Nvidia GeForce GTX 285	Nvidia GeForce GTX 285
TEST RESULTS				
UserBench Encode 2009	35.66	44.52	52.19	48.65
– Audio time/rate (min:sec/MB/s)	2:11/4.96	1:40 / 6.48	1:24 / 7.73	1:38/6.58
– Video time/rate (min:sec/fps)	1:02/119.88	0:54 / 137.01	0:48 / 155.77	0:43/174.2
UserBench Image 2006	2:57	2:33	2:37	2:25
UserBench Security 2010	N/T	47.12 / 6:57	51.47/6:22	54.24/6:02
UserBench Crysis 2008 (High)				
– 1,024 x 768/1,920 x 1,200 (average fps)	40.77/34.4	53.7/38.2	57.3/41.9	67.4/43.4
UserBench UT3 Demo 2008				
–1,024 x 768/1,920 x 1,200 (average fps)	212.3/172.6	177.3/164	246.5/228.6	287.6/174.9

N/T – not tested.

ATI RADEON HD 5670, HD 5570 & HD 5450

PHONE 1300 278 788 / **WEB** www.amd.com

Reviewing budget graphics cards as they launch is a tricky proposition. While there's some argument (albeit a tenuous one) to be made for paying top dollar for the newest, fastest GPU as it appears, initial scarcity and the attendant inflated prices make newly released 'budget' components difficult to rate in terms of value. That's certainly the case with these new Radeons, which round out the bottom end of AMD's DirectX 11 lineup. All three carry prices that don't currently sit well with the performance they offer and need to drop somewhat before we can recommend any of them.

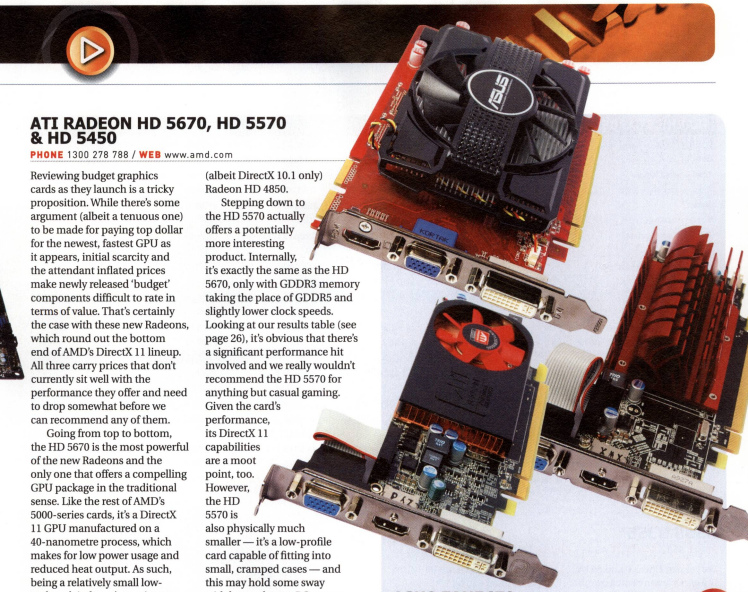
Going from top to bottom, the HD 5670 is the most powerful of the new Radeons and the only one that offers a compelling GPU package in the traditional sense. Like the rest of AMD's 5000-series cards, it's a DirectX 11 GPU manufactured on a 40-nanometre process, which makes for low power usage and reduced heat output. As such, being a relatively small low-end card, it doesn't require any additional PC I Express (PCI-E) power connectors to run. It's also the least expensive GPU in AMD's lineup to use GDDR5 memory. This means that even across the card's relatively narrow 128-bit memory interface, there's enough bandwidth to keep the 5670's 400 stream processors busy and produce (relatively) smooth performance at resolutions up to 1,680 x 1,050. Even DirectX 11-quality settings aren't out of the question, though our ASUS card only just cracked 30fps in our relatively lightweight DirectX 11 *DiRT 2* benchmark, so we wouldn't bet on the HD 5670's longevity with more demanding upcoming titles. Additionally, while there is smooth gameplay to be had with the HD 5670 on smaller (22in and under) monitors, at around $150 online, it's actually more expensive than the significantly more powerful (albeit DirectX 10.1 only) Radeon HD 4850.

Stepping down to the HD 5570 actually offers a potentially more interesting product. Internally, it's exactly the same as the HD 5670, only with GDDR3 memory taking the place of GDDR5 and slightly lower clock speeds. Looking at our results table (see page 26), it's obvious that there's a significant performance hit involved and we really wouldn't recommend the HD 5570 for anything but casual gaming. Given the card's performance, its DirectX 11 capabilities are a moot point, too. However, the HD 5570 is also physically much smaller — it's a low-profile card capable of fitting into small, cramped cases — and this may hold some sway with home theatre PC system builders or business users looking to take advantage of AMD's multi-monitor Eyefinity technology to output to three displays simultaneously. Just be sure to opt for a model with a DisplayPort output if you're after the latter, and have at least one DisplayPort-compatible monitor. At $120, the much faster HD 4850 is close in price, if you have the case room to spare and you aren't interested in Eyefinity.

Finally, the HD 5450 rounds out the bottom of AMD's current GPUs. It's a tiny, power-frugal card that's completely passively cooled. Normally, at a sweet enough price, that would garner our recommendation as a media PC part, but honestly, we're not really sure of the appeal. A look at our table will tell you that this isn't a gaming card at all — it's designed to accelerate HD content, which it does very well — but even Intel's otherwise unimpressive GMA HD graphics chip (which comes aboard every 2010 Core i processor) can do that. Likewise, integrated GPUs on AMD's 785G motherboards.

At around $80 online, if you don't want to go the integrated route, the significantly faster previous-generation HD 4670 goes for around the same price.

— Dominik Krupinski



ASUS EAH5670

PRICE $160 / **CONTACT** ASUS
PHONE 1300 278 788 / **WEB** www.asus.com.au

75%

PC User says: A potentially compelling budget GPU with low power use and decent performance, but the price needs to drop.

ATI RADEON HD 5570

PRICE $120 / **CONTACT** AMD
PHONE (02) 8877 7222 / **WEB** www.amd.com

70%

PC User says: If you've only got room for a low-profile GPU, this is as fast as it currently gets, but that's still not very fast.

ATI RADEON HD 5450

PRICE $80 / **CONTACT** AMD
PHONE (02) 8877 7222 / **WEB** www.amd.com

65%

PC User says: This tiny, passively-cooled card offers HD acceleration and audio bitstreaming, but little performance gain over integrated graphics.

GRAPHICS CARDS UNDER $200: HOW THEY COMPARE

	Tested this month			Previously tested (for reference)	
GPU	**ATI Radeon HD 5450**	**ATI Radeon HD 5570**	**ATI Radeon HD 5670**	**ATI Radeon HD 4670**	**ATI Radeon HD 4850***
Graphics card tested	AMD OEM	AMD OEM	ASUS EAH5670	MSI R4670-2D512/D3	Gigabyte GV-48500C-1GH
Core/memory clock (MHz)	650/900	650/900	750/1,000	750/1,000	625/993
Memory	512MB GDDR3	1GB GDDR3	1GB GDDR5	512MB GDDR3	1GB GDDR3
Stream processors	80	400	400	320	800
Driver software version	Catalyst 10.1 (pre-release)	Catalyst 10.1 (pre release)	Catalyst 9.12 (pre-release)	Catalyst 9.12	Catalyst 9.12
Power connectors	N/A	N/A	N/A	N/A	1 x 6-pin
System power usage (idle/peak)	57W/103W	59W/134W	64W/146W	67W/145W	98W/203W
Average online price	$80	$120	$150	$90	$140
TEST RESULTS					
UserBench Crysis 2008					
– 1,024 x 768/1,440 x 900 (average fps)	14.1/9.4	34.9/23.8	45.9/31.9	42.1/DNB	61.9/43.2
– 1,680 x 1,050/1,920 x 1,200 (average fps)	7.3/5.9	18.7/15.2	25.3/20.7	21.6/17.3	34.3/28.2
UserBench UT3Demo 2008					
– 1,024 x 768/1,440 x 900 (average fps)	53.2/31.8	133.1/82.5	179.9/114.6	165/99	230.3/155.3
– 1,680 x 1,050/1,920 x 1,200 (average fps)	24.9/20.2	65.3/54.3	91.91/77.54	77.2/60.3	128.1/101.9
UserBench DiRT2					
– 1,024 x 768 (average fps, DX9/DX11)	20.3/13	44.9/40	61.9/54.5	50.9/DNB	74.9/DNB
– 1,440 x 900 (average fps, DX9/DX11)	15.8/13	36.2/32	50.4/44.3	DNB	61.9/DNB
– 1,680 x 1,050 (average fps, DX9/DX11)	13.5/13.1	31/27.9	43.3/38.5	34/DNB	53.9/DNB
– 1,920 x 1,200 (average fps, DX9/DX11)	13.1/13.5	26.6/24.1	38.2/29.6	29.1/DNB	47.6/DNB

* Indicates this card was underclocked to stock speeds for that model. DNB – did not benchmark. Test system consisted of a Core i5 750 CPU at 2.66GHz (Turbo mode off), Gigabyte GA-P55-UD4 motherboard, 4GB DDR3-1333 RAM and Windows 7 Ultimate (64-bit).

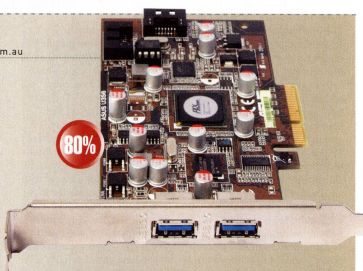
ASUS U3S6

PRICE $50 / **CONTACT** ASUS / **PHONE** 1300 278 788 / **WEB** www.asus.com.au

We've seen USB 3.0 and SATA 6Gbps as features on a number of recent motherboards. SATA 6 hasn't done much for us, but USB 3.0 is pretty impressive. Theoretically, USB 3.0 offers 10 times the transfer speeds of USB 2.0 at 4.8Gbps, but overheads and the read/write speeds of external mechanical hard drives realistically limit that to a bit over double USB 2.0 performance — at least for now. Still, if you're filling a 1TB external drive, that's nothing to sneeze at. This PCI-E add-in card offers the benefits of USB 3.0 and SATA 6Gbps connectivity without the need for a motherboard upgrade. Slotting into a spare PCI-E x4 (or greater) slot, usually reserved for a second GPU on cheaper motherboards, the ASUS U3S6 offers two USB 3.0 and two SATA 6Gbps connectors. Testing against an ASUS P7P55D-E PRO motherboard's integrated USB 3.0 ports with a 1TB USB 3.0 mechanical drive, we found its performance to be very close, only marginally slower when writing multiple small files. We think that's pretty decent. What's more, even with a bandwidth-thirsty GeForce GTX 295 GPU in our primary GPU slot, we didn't see any degradation in 3D performance from installing this card; an issue we'd feared, given the P55 chipset's relative paucity of PCI-E 2.0 bus bandwidth. Ultimately this isn't a replacement for a proper USB 3.0/SATA 6Gbps solution, especially if you're plugging in multiple devices that may strain the bandwidth offered by a PCI-E x4 connection. For now, though, with the speed of external drives being the main bottleneck, we think this is a worthy and relatively inexpensive alternative to a new motherboard.

— Dominik Krupinski

PC User says: Adds USB 3.0 and SATA 6Gbps on the cheap. What's not to like?



ASUS U3S6 TEST RESULTS

	Onboard USB 2.0	ASUS U3S6
700MB single file		
– Average read (MB/s)	25.5	56.27
– Average write (MB/s)	25.48	44.58
1GB assorted files		
– Average read (MB/s)	23.77	46.46
– Average write (MB/s)	22.54	36.5

All tests performed on Gigabyte GA-P55-UD4 motherboard with Core i5 750 CPU, 4GB DDR3-1333 memory, Samsung HD501LJ 500GB hard drive and Windows 7 Ultimate (64-bit).

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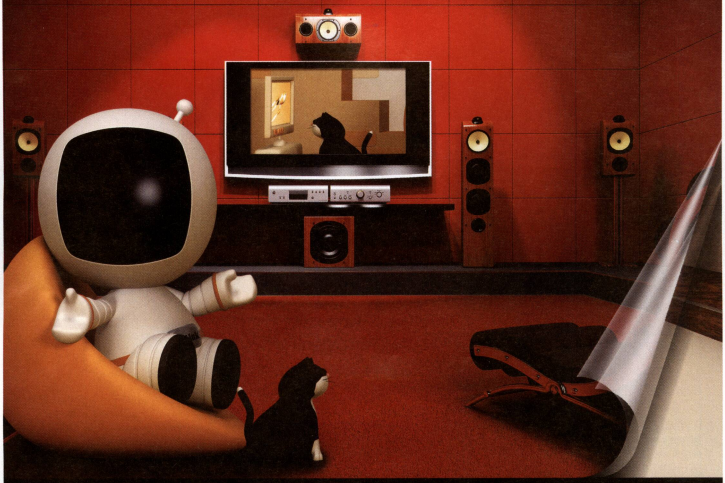

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Budget laser printers

Darren Yates tests five of the latest mono laser printers under $200.

When HP's first 8ppm LaserJet printer arrived in the office environment, it sold for over $4,000. Today, the 13ppm LaserJet P1005 sells on the street for around $125, and it's not the cheapest. Samsung couldn't get hold of its ML-1640 laser printer, which sells in major retailers for as little as $83, but we did find five models selling for under $200. For basic mono printing, nothing comes close to laser printers for speed and quality. While not all models handle mono printing of photos especially well, they make bulk text printing a far more affordable option over the longer term, compared with inkjet printers.

How we tested

We connected each printer using its USB port to an Acer Aspire X3900 desktop PC running Windows 7 Home Premium. We ran a series of tests, including one- and 10-page text documents and an A4 JPEG image. We timed each test from the last interaction with the printer driver software to the last page released from the printer. We checked and compared overall print quality and looked at the page yield and cost per page of each model. We also compared functionality and design before giving each unit an overall score out of 100.

Tech terms

Auto-duplexer. A device built into some printers that enables both sides of the page to be printed without turning the page over manually.

dpi (dots per inch). The measure of resolution or the ability of a printer to print fine detail.

ppm (pages per minute). The normal print speed rating given to printers. However, laser printers give their rated speed at best quality, while inkjet printers only do so in low-quality draft mode.

HP LASERJET P1005

PRICE $125 / **CONTACT** HP
PHONE 13 23 47
WEB www.hp.com.au

While the online price of this LaserJet P1005 has climbed a little since we last looked at in January 2009 (yes, it's still a current model!), it continues to be a very decent all-round buy. The P1005 delivers excellent print quality at a bargain price — there are no fancy extras such as Ethernet networking or duplex printing, but if you're after a mono laser that does a decent job of black-and-white photo printing, this was easily the best of the five. Text print quality was excellent, with nicely weighted characters, and the photo printing was also top-notch, with none of the banding we saw on the bulk of other models. We did have a minor problem with the driver installation not completing on Windows 7, so we had to go into Device Manager and use the driver update option to finish it off; however, the effort was worth it for the overall print quality. Unfortunately, the paper tray is open, so in humid environments it may affect your paper stock. At 5c per page, it wasn't the cheapest to run, but with decent mono photos, we think the print quality makes it worth the extra cost.

PC User says: **Getting long in the tooth, but still leads the pack.**

CANON LASER SHOT LBP3100B

PRICE $145 / **CONTACT** CANON
PHONE 13 13 83 / **WEB** www.canon.com.au

The LBP3100B is Canon's entry-level laser printer and a little pricey at $145 online, but it's not a bad model overall. It connects via USB only, but although the driver disc has no problem with installation on Windows 7. Print quality here is above average, with very good text quality and pretty decent mono photo quality. We did see very thin, only just noticeable banding on our test image, though. While it's not as good as the HP, the LBP3100B still managed to do a better job than everything besides. There's little to separate the Canon, HP and Samsung models in term of print speed, with the Canon taking just under 44 seconds to spit out our 10-page text document. The toner cartridge sells for around $80 and is good for 1,500 pages, so it's on par with the P1005 for running costs.

While this isn't a bad printer, we'd go for the P1005 for its slightly lower cost and slightly better print quality.

PC User says: **A decent printer, but doesn't quite match the HP.**

75%

FUJI XEROX PHASER 3125N

PRICE $199 / **CONTACT** FUJI XEROX
PHONE 13 14 12 / **WEB** www.fujixerox.com.au

One of the few network-ready lasers you'll find for under $200, the 3125N is a bit boxy in its design, but has speed to burn. Our 10-page text document test took just 32.22 seconds, more than 10 seconds faster than the others. Despite featuring two driver discs, neither would install on Windows 7, so we had to download a 28MB driver install file from the Fuji Xerox web site. It's pricey at $199, you do get Ethernet networking built in; not only that, you also get USB and parallel printer interfaces. If you're after a mono laser with a parallel printer port, this is the only one we've seen in a long time. It's also slightly cheaper to run than the Brother, with a high-capacity 3,000-page yield toner cartridge. While its text quality was generally good, this one exhibited minor banding on photo prints, so we'd steer clear of doing that here.

PC User says: Not great for photos, but it's fast and versatile.

70%

SAMSUNG ML-1660

PRICE $129 / **CONTACT** SAMSUNG
PHONE 1300 362 603
WEB www.samsung.com/au

The ML-1660 is the brand-new model up from the incredibly cheap ML-1640 and it won't be available in stores until March 19. However, at $129, this compact printer just doesn't deliver the same quality as the HP LaserJet P1005. It's USB only, features open paper trays and as you'd expect with such a new model, had no trouble installing its driver software into Windows 7. While the text quality here was good (just a little thinner than the HP), photo printing wasn't great. Noticeable banding right across the image makes this printer unsuitable for that sort of work. Print speeds were also slower than the P1005; in fact, only the Brother HL-2140 was slower. The ML-1660 is one of the smallest, most compact laser printers we've seen and it's great for text work, although we'd take the LaserJet P1005 first.

PC User says: An ultra-compact laser printer, but it can't match the HP.

65%

BROTHER HL-2140

PRICE $99 / **CONTACT** BROTHER
PHONE (02) 9887 4344
WEB www.brother.com.au

The HL-2140 is still out there in the market and a little cheaper than when we looked at it last time. While it's the cheapest of the five to run, the ozone smell produced by the printer doesn't make this an ideal choice if your home office doesn't have adequate ventilation. It's a pity because it's the only one at a decent price with an enclosed paper drawer. It's also 1c per page cheaper to run than the other models. It even gives the ML-1660 a run for being the most compact model around. While it was the slowest to spit out a single text page, it still managed to pump out all 10 pages of our other test in under 40 seconds. The printer was designed back in the era of Windows Vista, so Windows 7 drivers are available on the Brother web site. This is certainly a cheap printer, but the ozone smell was just too strong.

PC User says: Cheap to buy and run, but the ozone smell is overpowering.

LASER PRINTERS: HOW THEY COMPARE

	Brother HL-2140	Canon LASER SHOT LBP3100B	Fuji Xerox Phaser 3125N	HP LaserJet P1005	Samsung ML-1660
Price	$95	$145	$189	$125	$129
Maximum resolution (dpi)	600	600	1,200	600	1,200 x 600
Print speed (ppm)	22	16	24	14	16
Onboard memory (MB)/expandable	8/No	2/No	32/No	2/No	8/No
PictBridge/major memory card readers	No/No	No/No	No/No	No/No	No/No
Operating system support	Windows 2000/ XP/Vista/7, Linux, Mac OS X	Windows 98/ Me/2000/XP/ Vista/7, Linux	Windows 98/ Me/2000/XP/ Vista/7, Linux, Mac OS 8/9/X	Windows 2000/XP/ Vista/7, Mac OS X	Windows 2000/XP/ Vsta/7, Linux, Mac OS X
EXTRA FEATURES					
Automatic duplexer	No	No	No	No	No
Installation CD includes Windows 7 drivers	Yes	Yes	No	Yes	Yes
Ethernet/wireless networking connection	No/No	No/No	Yes/No	No/No	No/No
USB/parallel printer port wired connection	Yes/No	Yes/No	Yes/Yes	Yes/No	Yes/No
Paper tray input (pages)	250	150	250	150	150
CONSUMABLES					
Black toner cartridge model	TN2130	CART312	106R01159	CB435A	MLT-D104S
Black toner page yield (pages)	1,500	1,500	3,000	1,500	1,500
Toner cartridge costs	$60	$80	$112	$75	$99
Cost per mono page	$0.04	$0.05	$0.04	$0.05	$0.066
DIMENSIONS & WEIGHT					
Dimensions in mm (WxDxH)	368x361x171	372x250x197	358x298x253	347x224x194	341x224x184
Weight (kg)	5.8	6	8.9	4.7	TBA
SPEED TEST RESULTS (seconds)					
One-page Word document	10.91	9.12	9.47	8.82	10.00
10-page Word document	39.78	43.79	32.22	45.38	48.65
A4 Photo - plain paper	12.37	13.09	22.65	13.34	14.66
TEST RESULTS - QUALITY (out of 10)					
Text quality	8.5	8.5	8.5	9.5	8.5
Photo quality - plain paper	7	8	6.5	9	5

Buyer's checklist

If you're about to buy a laser printer, here are some things we think you should check.

* **Smell.** This sounds strange, but you really need to try and get an idea of how strong the smell of a laser printer is when it's printing. Most laser printers produce some ozone gas, which isn't good for you. Some printers filter this better than others, so try to get a whiff before you buy.
* **Driver support.** Support for Windows 7 isn't guaranteed, nor is it for Linux or Mac OS X, so choose carefully.
* **Peripheral ports.** While USB 2.0 is a definite on any printer, few offer parallel printer ports and networking at these low prices.
* **Paper drawer.** Ideally, a laser printer should keep its paper stock inside an enclosed drawer to keep it out of the humidity, which can cause paper curl. Few do at the entry-level end of the market.

Loud & clear

Henry Winchester tests 10 gaming headsets to help you pick the right one.

Our sound setups tend to be as unique as our fingerprints. Some people go all out for a gold-plated speaker system, while others are happy with onboard sound and a $10 pair of speakers from Harvey Norman. We can all be united on one front, though: headsets.

So how do you choose the right ones? Comfort has to be a priority and extra features are important, although not quite as important as good-quality sound.

While 5.1 surround sound has made its way into our headsets, it's beset with one major problem: is it really surround sound you're listening to? Cramming three tiny speakers into a headset also seems counter-productive when you could simply have a single giant speaker blasting out decent-quality audio instead.

Another major technology that's become more prevalent is USB connectors and built-in sound cards. It's a good idea for notebooks, although we've had more aural joy and less tedious driver issues with a proper sound card and 3.5mm jacks.

We put 10 headsets through their paces and found that great audio quality doesn't necessarily mean paying a premium.

How we tested

Our intense testing process involved playing *Half-Life 2* and listening to a variety of detailed and rich music tracks to give the drivers a good workout. Mics are a tad more tricky to test, so we turned them up to full and recorded some audio to check for sensitivity and any background noise. To test the comfort of each headset, we wore them for at least two hours. If they were too tight or our ears got too sweaty, they were marked down. We also used them in a noisy office environment to see how they blocked out ambient noise.

_REVIEWS

CREATIVE FATAL1TY PRO SERIES GAMING HEADSET MK II

PRICE $65 / **CONTACT** CREATIVE / **PHONE** (02) 9021 9800
WEB http://au.creative.com

We're massive fans of Creative's MK I Fatal1ty headphones, which sounded incredible without costing the Earth. The latest revision changes the shape from oval to oblong, but the overall quality remains. In terms of sound, these are still our favourites. They block out just enough background noise that you can hear what's going on, but games still sound punchy and defined. They're comfortable enough to wear for extended periods and the detachable mic means you can even wear them on the street without looking like a lost flight controller. The mic itself is compatible with Creative's own Silencer tech, muting input when you're not speaking. And at $65 — lower than most other sets here — these ones are a genuine steal.

PC User says: **Brilliant audio quality at a very reasonable price.**

STEELSERIES SIBERIA V2

PRICE $150 / **CONTACT** SYNNEX
PHONE 1300 100 100 / **WEB** www.steelseries.com

The original SteelSeries Siberia's neckband was applauded on release, but I found wearing them akin to being strangled by a giant white crab. The sound was detailed, but they were way too tight. Thank heavens for the Siberia v2. An over-the-top set, they're so comfortable and light that you don't even know they're there. And from the amount of phone calls I've missed this afternoon, I can tell you that they do a good job of blocking out background noise as well. These are only 2.0 headphones, but team them with a decent sound card and you've got a wonderful audio solution. The Siberia v2 also looks awesome and the tiny, responsive mic tucks away nicely.

PC User says: **Light and comfy, these offer great sound quality and noise-cancelling features.**

ZALMAN ZM-RS6F+M

PRICE $60 / **CONTACT** ALTECH COMPUTERS
PHONE (02) 8831 9999 / **WEB** www.zalman.com

Have you ever wanted to look like Lobot from *The Empire Strikes Back*? Now your Lobot dreams have come true with Zalman's beast of a headset. It weighs a ton, but it did deliver the most convincing 5.1 surround sound out of any of the purported surround sound headphones we tested. Zalman has been quite smart in omitting a USB connection in favour of the more standard set of three 3.5mm jacks. This means it can be plugged straight into a sound card, so there's no stuffing around with configuration software. The sound itself lacked bass and the newsreader-style clip-on mic was a bit of a pain to use. Most importantly, though, they do deliver what they promise — if you don't mind looking like our good friend, Mr Lobot.

PC User says: Offers the best 5.1 surround sound of any headset here.

PLANTRONICS GAMECOM 367

PRICE $50 / **CONTACT** PLANTRONICS / **PHONE** (03) 9326 1653 / **WEB** www.plantronics.com.au

Speaker theory goes that the bigger the driver, the better the sound quality. This is because the larger sound waves generated by the cones are more readily picked up by your ears. Of course, this doesn't always apply to headphones, as they're much closer to your inner ear, but the theory remains. The drivers here are huge at 50mm. The Plantronics GameCom 367 weighs a fair bit, and some may not be keen on the '80s-style square design, but they do deliver a full-bodied sound and the specially designed earpods are made to redistribute pressure for comfort. I was also genuinely shocked when I found out they sell online for only around $50. They pale in comparison to the SteelSeries and Sennheiser units, but for the price, you could do far worse. Our only complaint is the mic, which is a tad too sensitive.

PC User says: Excellent sound quality from bargain headphones.

SENNHEISER PC 350

PRICE $270 / **CONTACT** SYNTEC / **PHONE** 1800 648 628 / **WEB** www.sennheiser.com.au

Put on Sennheiser's PC 350 heaphones and you won't be able to hear a single thing; that's how good this set is at blocking ambient sound. At $270 however, these are the priciest headphones we tested in the roundup. They are also the quietest — crank them up to maximum and it's just not deafening enough for our tinnitus-inflicted auditory sensors. However, it's at lower volumes are exactly where they pull through — even at a shade above silence, we could clearly hear gunfire from a mile away. One for cashed-up online gamers then. The mic is incredible and coupled with an X-Fi sound card, you'll be able to pick out where a sound's coming from better than with a 5.1 setup.

PC User says: The sound quality is great, but the price puts it out of reach of most gamers.

CYBER SNIPA SONAR 5.1 HEADSET

PRICE $90 / **CONTACT** CYBER SNIPA / **PHONE** (02) 8011 4370 / **WEB** www.cybersnipa.com

Cyber Snipa has made a reputation for itself in the world of inexpensive yet decent mice. Its 5.1 headset packs three speakers into each headphone; unfortunately, setting them up wasn't the best experience, as the drivers crashed Windows every time we tried to make adjustments, and once we actually got them up and running the software proved to be difficult to navigate. However, they do work — the surround sound effect isn't very convincing, but it's there. Like all the 5.1 headphones we've looked at, you'd be far better off with a surround speaker system, but these are a fair compromise. They're not bad for the price and the mic does the job. If you want proper 5.1 surround sound, we'd go for the Zalman headphones instead.

PC User says: A decent headset, but the surround sound isn't convincing.

SENNHEISER PC 300 G4ME

PRICE $125 / **CONTACT** SYNTEC / **PHONE** 1800 648 628 / **WEB** www.sennheiser.com.au

Sennheiser's portable PC 300 G4ME headphones are better than the SteelSeries set below, delivering nicely defined sounds at respectable volumes. The mic is built into the lead, unlike the Siberia in-ear phones, although it won't pick up subtle throat sounds. Sennheiser promotes the headphones as noise-cancelling, but they're passive rather than active in this respect, relying on silicone earplugs to block out background noise. They do a fairly decent job, but it's nothing special when you consider that a cheap set of headphones can do the same thing. At $125, the cost is too steep — we reckon they're worth about half that. We also can't understand Sennheiser's failure to include the four-way jack so you can use these with an iPhone.

PC User says: **While they're designed better than the SteelSeries earphones, full-size headphones will cost less and sound better.**

70%

STEELSERIES SIBERIA IN-EAR HEADSET

PRICE $70 / **CONTACT** SYNNEX / **PHONE** 1300 100 100 / **WEB** www.steelseries.com

With 3G dongles and increasingly powerful laptops available, gaming on the move is becoming more of a possibility; however, you don't really want to lug around headphones as big as your netbook. These in-ear phones offer a decent alternative, as they're nicely portable and even include their own little storage pouch. Ultimately, though, the SteelSeries Siberia option is a let-down. The sound was tinny and flat, and lacked volume. They're touted as reducing background noise and like the Sennheisers above, this is passive rather than active. The giant mic seems like a nice idea, but it requires that you clip it to your clothing. Do that and you'll be able to hear your aortic valve creaking open — that's good for heart surgeons, but not so good for gamers. Music playback did sound slightly better, but overall, we'd still recommend proper headphones for gaming on the go.

PC User says: **They're nicely portable, but the audio quality leaves a lot to be desired.**

65%

LOGITECH G35

PRICE $155 / **CONTACT** LOGITECH / **PHONE** 1800 133 274 / **WEB** www.logitech.com

As far as *PC User* is concerned, when it comes to mice and keyboards, Logitech can pretty much do no wrong. And with its speakers being rather good, it seems natural that the company should be able to muster a decent set of headphones, but it hasn't in this case. There are a whole heap of controls on the G35's left headphone, which should be handy, but it actually makes it seem like you're wearing a mouse on the side of your head. We'd rather have an inline remote than have to fumble about in the dark. Unfortunately, the problems don't end there. We had absolutely no luck getting the supposed 7.1 surround sound to work and every game we tested reverted to stereo. To be fair to Logitech, though, the G35 is a well-made, comfortable set of heaphones. However, in the end, we found the poor controls and lack of surround sound pretty much a deal-breaker.

PC User says: **These headphones are let down by the fiddly controls.**

60%

GENIUS HS-04SU

PRICE $20 / **CONTACT** ALTECH COMPUTERS / **PHONE** (02) 8831 9999 / **WEB** www.geniusnet.com

We wouldn't have really thought headphones were something you could get wrong, but the Genius HS-04SU set was pretty underwhelming compared to all the others here. They may look like decent headphones for the $20 price tag, but they weren't so great in use. The headband looks like something you'd use to secure a sign to a pole and the headphones are one-size-fits-all, if the 'all' in question have enormous heads. While that was fine for me, it probably won't be for people with average-sized heads. Another problem is that they also slip down as soon as you make any kind of adjustment, which means the already tinny sound becomes weaker, as it's not being pumped directly into your ears. Worse still, they made our ears itch. I think I'm allergic to poor-quality sound.

PC User says: **Tinny audio and only for those with large heads.**

50%

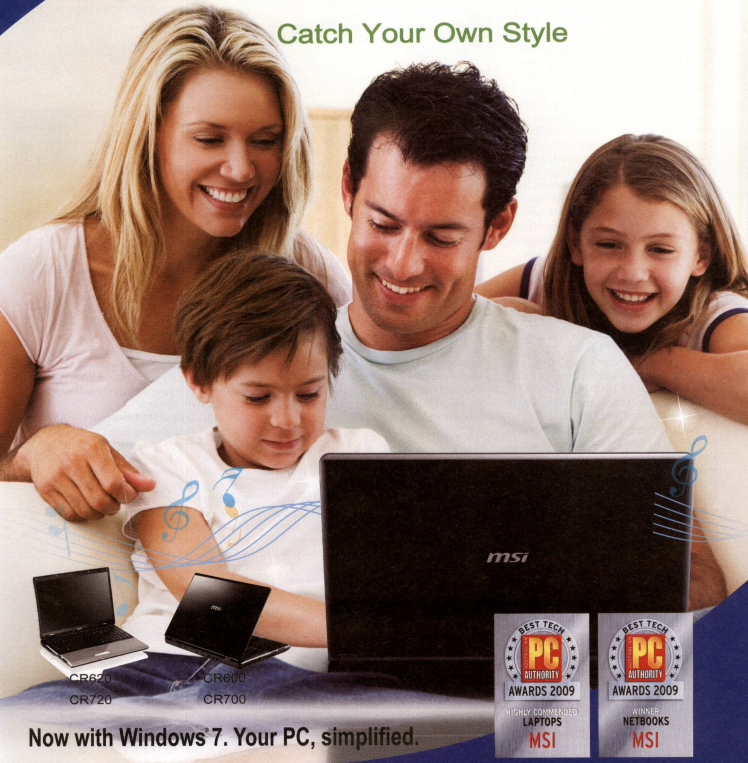
msi

Windows®. Life without Walls™.
MSI recommends Windows 7.

Windows®

Catch the New C Series

Catch Your Own Style



Now with Windows® 7. Your PC, simplified.

MSI C series notebook equipped with genuine Windows® 7 operating system

au.msi.com

Top 50 freebies

Rose Vines uncovers 50 cutting-edge apps and services available free on the internet.

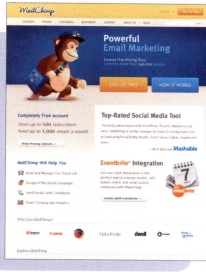
_BROWSERS & ADD-ONS

* **Flock (www.flock.com).** The browser scene has become more interesting with the addition of Google Chrome, but Flock is really pushing the envelope. Dubbed The Social Web Browser, Flock marries web surfing and social networking. If you tweet, Facebook, Flickr or hang out on other social networking sites, Flock makes it easy to keep tabs on your friends as you roam the net. A media bar across the top spotlights YouTube, Flickr and other media content, while sidebars house streams from Twitter, Facebook and other social sites.
* **Opera 10 with Unite (www.opera.com).** Opera pioneered many of the features we've come to expect as standard in our browsers and its latest version, 10, continues in this pioneering spirit. It adds a server, Unite, to Opera's bag of tricks. Unite lets you serve up content from your computer to those on your A list: stream your music library over the internet, share files or host a web site. Add Unite to the list of other innovations, like draggable tabs with hidden web page previews and a customisable speed dial page.
* **Quix (www.quixapp.com).** Quix is a handy tool for the geeky and keyboard oriented. It has the potential to be the bookmarklet to end all bookmarklets. If your bookmarks toolbar is filling up with other bookmarklets for services such as Readability or URL shorteners like bit.ly and TinyURL, use Quix, an extensible bookmarklet, to replace them. Quix includes dozens of predefined shortcuts and you can add your own quite easily. For instance, click the Quix bookmarklet and type `w <search phrase>` to search Wikipedia; type `fb` to share the current page on Facebook; type `bitly` to shorten the current page's URL using bit.ly.
* **Xmarks (www.xmarks.com).** Xmarks synchronises your bookmarks and passwords across all your computers. It works with Internet Explorer, Firefox and Safari (on the Mac) and you can use it to keep any number of computers in sync. It works by backing up your bookmarks to a web site. To use it you need to sign up for a free, password-protected account and then use that account to access your bookmarks on the Xmarks web site, as well as on your computers. Xmarks also optionally provides site information in your Google search results and in your browser's address bar.

Communications tool

MailChimp (www.mailchimp.com). Email marketing meets social networking, that's MailChimp. With this service you can send four newsletters or promotional emails to 500 subscribers each month for free, making it perfect for sporting and social clubs as well as any organisation with a small mailing list. MailChimp gives you list management tools, good-looking templates plus the ability to create your own campaign-tracking tools to monitor the effectiveness of your emails, and a whole bunch of advanced features including RSS integration and Google Analytics. It works hand in hand with WordPress, Eventbrite and Twitter, and you can track your campaigns and sign people up via your phone with MailChimp Mobile.

Deliver professional-looking email newsletters with the help of MailChimp.



_FILE DOWNLOADING, SHARING & SYNCING

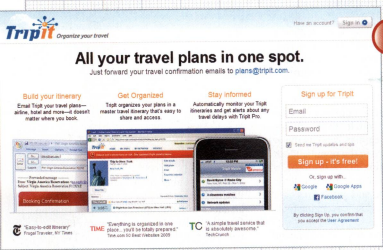
* **Dropbox (www.dropbox.com).** Dropbox takes the pain out of sharing files. It lets you synchronise files across all your computers at home, at work and on the road; pool files for collaboration with workmates, family or friends; create online photo galleries in an instant; and share any single file simply by sharing a URL. Dropbox is smart about the way it copies files. If you modify a file on one computer, only the changes are synced to your other computers, saving on bandwidth and making for swift updates. Dropbox consists of a small program and, with a free account, 2GB of web-based storage.
* **drop.io (http://drop.io).** Need a space to chat, show a presentation, share files, music and video? drop.io lets you create a private space (called a Drop) with a couple of clicks. Give out the address and optional password to your Drop and others can join you for real-time collaboration. You and your collaborators can upload content using email, Facebook, a Firefox extension, an Outlook plug-in or via phone. Perhaps the coolest feature is that it streams new content without any page refreshes, so as people contribute to the Drop, the conversation and content flows onto your screen.
* **FileZilla (http://filezilla-project.org).** FileZilla is a free open-source FTP (file transfer protocol) app, with both client and server versions. It's fast, runs on Windows, Linux, Mac and several other platforms, and provides secure transfers. It can handle the transfer of multi-gigabyte files with resume and transfer. The tabbed, graphical interface supports drag and drop and it has an easy-to-use site manager.
* **Free Download Manager (www.freedownloadmanager.org).** Here's a one-stop solution for your file downloading needs. Free Download Manager (FDM) lets you manage downloads via HTTP, FTP and BitTorrent. It includes download acceleration to speed up multi-file downloads and download resume to save you from hair-tearing if a big download crashes before completion. Its HTML Spider lets you download an entire site or specific types of files from a site. FDM also lets you grab video from YouTube and other sites and save it in FLV or convert it to other formats.

Flock marries your browsing and social networking lives.

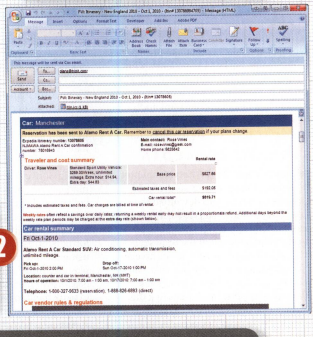
_IMAGE EDITING & MANAGEMENT

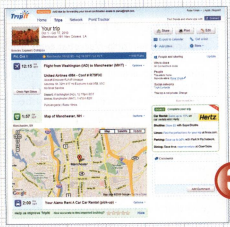
* **Aviary (www.aviary.com).** Aviary is where

stepbystep PLAN TRAVEL WITH TRIPIT



1 TripIt (www.tripit.com) makes travel planning a pleasure. Sign up for an account and, if you like, connect with friends who are also using TripIt.





2 Send your confirmation emails from travel agents, airlines, hotels and restaurants to plans@tripit.com.

3 TripIt turns your raw emails into a beautifully presented itinerary. It pulls in maps, weather reports and sightseeing tips, and sends you calendar updates and plans via phone. It integrates with a host of apps, including Facebook, LinkedIn and mobile apps like Flight Update Pro.

web-based applications are heading. Aviary houses a beautifully designed set of tools for creating and sharing visual and audio art. The Flash-based tools include audio, image, vector, effects and colour editors, an image markup app and screen capture. They're easy to use off the bat and video tutorials help you go further. Share your content with the Aviary community (you retain the original rights), and view and dissect others' creations using the Aviary tools. There's a paid subscription that lets you watermark your creations and keep files private.

* **Picasa (http://picasa.google.com).** Picasa is one of those apps everyone should have. Google's photo manager and editor is easy to use and contains an ever-expanding set of features. A recent addition is face recognition. Tell Picasa who's in a photo and it will take a stab at recognising them in other photos. It claims to be able to spot the same person aged five and 50 — give it a try. Use Picasa Web Albums to share your content online.
* **Picnik (www.picnik.com).** So, you have photos on Flickr, Webshots, Picasa Web Albums and Facebook. All over the place, in fact. Picnik can open and edit your pics from almost anywhere on the web from

_SECURITY FREEBIES

* **KeePass Password Safe (http://keepass.info).** If you use your pet's name or 'password' as your password, it's time you installed a copy of this tool. This password keeper lets you create strong passwords for all the sites you visit and accounts you keep, and then use either a single master password or a key file or both to protect them. The key file method is more secure, although it's more of a hassle — you store the file separately on a memory stick or CD and insert it to gain access to your passwords. KeePass can generate strong passwords for you to ensure your data is kept safe, although there's no real way of testing its claim that "the sun will go nova before you have decrypted the database".

* **LogMeIn Free (https://secure.logmein.com/products/free).** Get remote access to your computer with LogMeIn Free. You install LogMeIn on the computer you want to control remotely and then log in from another computer, either PC or Mac, to get control over the remote's operating system and applications. It supports Wake-on-LAN (WoL), so if the computer you want to control supports WoL and is in sleep mode, LogMeIn will wake it up. You won't get the ability to transfer files or print using the free version; for that you'll need to go Pro.

* **Avast! (www.avast.com/free-antivirus-download).** Alwil gives away a version of its Avast! antivirus software that you can use on any or all of your home computers. It's a feature-limited version of Avast! Pro and Avast! Internet Security, suitable for average computer usage. Combine it with one or two of the free spyware programs and you have decent protection. Avast! not only spots and removes virus infections, it provides real-time monitoring against new infections, prevents sites from hijacking your browser and disinfects mail you send and receive. It works fairly quietly on the whole without hogging system resources.

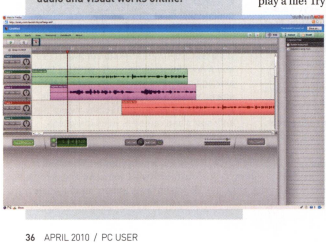
your computer. You can then transform your photos using a simple set of automatic editing fixes plus a palette of effects. Picnik's free, but it has rather annoying ads; you can upgrade for a couple of bucks a month, do away with the ads and get advanced editing tools and batch uploading.

* **Photoshop.com (www.photoshop.com).** If you're looking for sophistication in an online app, it's hard to go past photoshop.com, Adobe's online photo editing program. It's a beautiful venue to share your photos with others and it lets you pull in photos from Facebook, Flickr, Picasa Web Albums and Photobucket. The editing tools are considerably more powerful than those you'll find in a free Picnik account and they work smoothly. You get 2GB of space to house your photos in the free account.

_STREAMING MEDIA

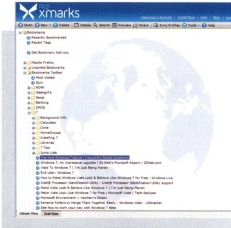
* **NetVideoHunter (http://netvideohunter.com).** Video proliferates across the web, but it's not always easy to download the videos you see online. NetVideoHunter makes it a whole lot easier. This Firefox add-on ensconces itself in the browser's status bar and automatically keeps an eye out for videos on each page you visit. Click its icon to see a list of videos from sites you've visited recently and then click the Download button to grab a local copy. Most of the videos are downloaded in FLV format; you can use Applian's free FLV Player to view them.
* **Vuze (www.vuze.com).** Vuze is a stylish video player that plugs into content using BitTorrent peer-to-peer file sharing. Use your computer (PC or Mac) to grab the video and then view it in full high definition on your TiVo, PlayStation, Xbox, iPod, iPhone or any of a number of other devices. Vuze handles all the format translation for you; just drag a video from the Vuze Library to any device and Vuze will convert it if needed. Lurking beneath the pretty interface are plenty of stats, tools and configuration options to keep techheads happy.

Use Aviary's suite of editors to create audio and visual works online.



_MEDIA PLAYERS & MANAGERS

* **EventGhost (www.eventghost.org).** EventGhost will help you get your remote control working with your computer. It allows you to program your remote — the one that came with your TV tuner or one that you bought separately — to do just about anything in Windows or in your favourite media application. It's a little overwhelming at first, but once you get the gist of programming with it, it's easy to use.
* **FLV Player (www.applian.com/flvplayer).** FLV Player plays video in the popular Flash Video format, including videos from YouTube and many other sites. You can view videos full-screen or zoom in and out. It works well in conjunction with video scavenging tools like NetVideoHunter.
* **MediaMonkey (www.mediamonkey.com).** MediaMonkey has a truckload of tools to manage, rip, tag, sync and burn your audio collection. It'll download album art and tag music already in your library, while the built-in tag editor supports a variety of audio formats. Subscribe to podcasts, burn discs using the integrated burner and, of course, play anything in your library. MediaMonkey has its own media player and it's also happy to work hand in hand with Winamp (**www.winamp.com**) as the player.
* **MediaPortal (www.team-mediaportal.com).** Like Windows Media Center, but better. MediaPortal is a little more complicated to set up and get running, but after the initial learning hump, there are big rewards. It has a superior interface and much better file format support and plug-in architecture, so you can add to its base capabilities.
* **TVersity (http://tversity.com).** TVersity is a UPnP AV/DLNA media server. What that translates to is a program that sets up your PC to serve media files to a networked media player, such as an Xbox 360 or PlayStation 3. You designate the files you'd like to make available and the next time you fire up your console and check the video section, your PC running TVersity will appear.
* **VLC media player (www.videolan.org).** Can't get Windows Media Player (WMP) to play a file? Try VideoLAN VLC media player. This WMP alternative can play almost any media file you toss at it and it runs on all sorts of operating systems. VLC media player plays files on your computer, DVDs, VCDs and CDs, and it can handle input from TV capture cards and a variety of streaming formats. It's skinnable, too.
* **XBMC (http://xbmc.org).** A great media player and desktop replacement for WMP (it also runs on other operating systems). XBMC is ideal for lounge room and other home theatre PCs, as it replaces the Windows interface with one appropriate for television screens. It also plays just about any file type you can think of. It doesn't do TV programming and recording yet; if that's what you're after, try MediaPortal.



Keep your bookmarks and passwords in sync and available online using Xmarks.

_OFFICE APPS

* **Acrobat.com (http://acrobat.com).** Adobe has designed a web-based app that's as good looking as anything you'll find offline. Acrobat houses your files online and provides a word processor, a spreadsheet and a presentation program with which you can edit and create documents. It also lets you convert a handful of documents to PDF format and host web conferences with a couple of people; you'll have to upgrade your free account if you want to eliminate these limits. The programs are easy to use and Adobe includes video tutorials to get you started.
* **Foxit Reader (www.foxitsoftware.com).** You can't surf the net without encountering PDFs. Adobe's been very successful in promoting its portable document format, but it's been less successful in developing a PDF reader that makes its users happy. Adobe Reader can be sluggish and Adobe takes its time in addressing problems in the software. Enter Foxit Reader. Sleeker, faster and more reliable than Adobe Reader, Foxit also gives you extras including an annotating tool and PDF-to-text conversion. It's security conscious, too, and won't connect to the internet without your permission.
* **Go-oo (http://go-oo.org).** So you know about OpenOffice.org, but have you heard of Go-oo? It's another office suite, designed to be faster and offer greater compatibility with Microsoft Office formats. It not only supports Microsoft Excel and Word formats, it also provides support for documents created in Microsoft's low-end suite, Works, plus WordPerfect Graphics and Lotus Word Pro. It will run on Windows, Linux and the Mac, as well as a bunch of more esoteric platforms.
* **Lovely Charts (www.lovelycharts.com).** With Lovely Charts you can create flowcharts, organisational diagrams, network charts, sitemaps and more. This browser-based app,

ASUS EZ UI WITH MANUAL FREE SET UP

ASUS DSL-N11

802.11n ADSL 2/2+ Modem Router with 4 Ethernet Ports

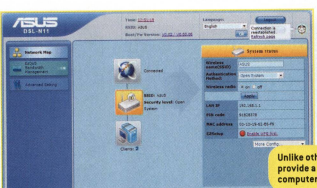
Setting up a new Network Router can be a time consuming, and difficult task. Asus has released a new range of routers with simplifying internet connections and online support in mind. The DSL-N11 is an impressive ADSL2+ modem router that is essentially an all-in-one device. With ADSL2/2+ support, wireless capability, 802.11 b/g/n for superfast speeds, four 10/100 Mbps Ethernet ports, WPS support, secure WEP64/128bit/WPA-PSK/WPA2-PSK as well as DMZ/Port forwarding, this is a device that is designed to perform at its peek at high-end internet speeds.

Best of all is how easy it is to get the DSL-N11 up and running. Using Asus's *Quick Internet Setup* (QIS), the router will automatically detect your WAN connection as soon as it's plugged in to your modem and PC. Too easy!

Using simple instructions, usernames and passwords are entered and the system is then online. All in 70% less time than a standard setup. Once you're up and running an intuitive graphical interface (pictured) simplifies the users' ability to manage their networks and alter settings.

EZQoS and DR.Surf

EZQoS allows the user to set bandwidth priority and manage the network traffic with just a click of a button instead of defining values and the location of the bandwidth control. Behind the scenes, Dr.Surf acts as your own personal helpdesk, offering real-time diagnostics to monitor your connection status as well as diagnose and report any problems.



Turn your printer into a network printer

Allows users to share their existing local printer on the network in just three simple steps via a USB connection, effectively turning it into a network printer that can be accessed by multiple PCs. Available in RT-N13U and RT-N16.

File sharing

Access and share files form multiple devices on the network via USB, including NTFS reading and writing as well as FTP access and SAMBA file sharing. Files on external hard drives can be shared across the network via a USB connection with AiDisk. Users only need enter their DDNS address in the browser to access the files on the external hard drive. Available in RT-N13U and RT-N16.

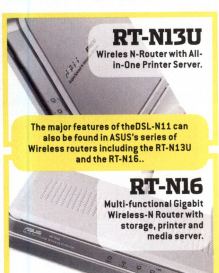
Downloading

Download files from the Internet onto the external HDD is a simple process using the Download master software which supports HTTP/FTP/bit-torrent protocols with the capability to support up to a massive 300,000 sessions (seeders) for faster downloads. Plus, to keep green, files are downloaded with the router, so the PC can be shut off to save you power, and money! Available in RT-N13U and RT-N16.

DSL-N11 SPECS

- 802.11 b/g/n
- ADSL2/2+ support
- Four 10/100 Mbps Ethernet ports
- WPS support
- WEP64/128bit/WPA-PSK/WPA2-PSK
- DMZ/Port forwarding

Unlike other routers, the DSL-N11, RT-N13U and RT-N16 provide a user friendly graphical interface, click on the computers in the network map to manage their settings.



built using Adobe Flex, is surprisingly simple to use yet remarkably flexible. With a free account, you can create any number of charts, but you can only save one to your account. When you're done, export your chart to a JPG or PNG graphic for printing or publishing on your blog or web site.

✳ **PDF to Word (www.pdftoword.com).** Nitro Software provides a suite of free online tools for handling PDFs. Use PDF to Word to convert PDFs to Microsoft Word or Rich Text Format so you can edit the content. PDF to Word does an extraordinarily good job of conversion, preserving almost all the original formatting, even in complex documents. Simply upload your PDF, select DOC or RTF conversion, and provide your email address for the resulting file. You'll find links to Nitro's other free tools, including a PDF Editor and PDF to Excel, on the same site.

_SEARCH

✳ **Collecta (http://collecta.com).** What's happening on the internet right now? Collecta will tell you. This search engine scours the web for current news, happenings, tweets and blogs. Its three-pane interface houses your recent searches on the left, a results stream in the centre and the selected item's contents on the right. Recent results bubble to the top; click the 'Older Results' bar to scroll chronologically through the list.

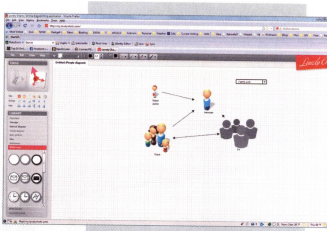
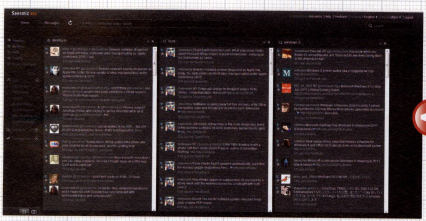


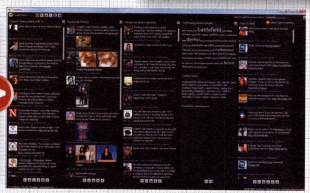
Diagram your life with Lovely Charts.

THREE BEAUTIFUL WAYS TO TWEET



If you're still logging in to http://twitter.com to use Twitter, it's time you moved on. Seesmic Web (http://seesmic.com) lets you do so without leaving your browser. It provides a beautifully clean, simple browser-based view of your twitterverse. The left-hand side houses a panel from which you can select the types of tweets to display in columns on the right. Seesmic supports lists, saved searches and trending topics, as well as mentions, favourites, direct messages, and so on. You can switch between handsome black-and-white themes and you can also switch the interface between several languages on the fly.

TweetDeck (www.tweetdeck.com) is a downloadable Twitter client. It runs in AdobeAir and has a beautiful, multi-columned look. It's perfect for power tweeters, but it will also help you make sense of Twitter if you're floundering in the tweetstream. Set up columns containing your own tweetstream, mentions and direct messages, or use searches to track topics. If you have more than one Twitter account — perhaps one for work plus a personal one — TweetDeck makes it easy to follow and Tweet to both of them concurrently. It'll even feed your tweetstream directly into Facebook and let you track your friends' Facebook status updates and photos.



Not sure about Twitter? Take a peek with Seesmic Look (http://seesmic.com). It lets you eavesdrop on some of the most interesting tweetstreams available and you don't even need a Twitter account to use it. This downloadable app, which works on XP and Vista, but works best on Windows 7, displays tweets from the current hot topics in a luscious, luminous interface. Tweets bubble up from the depths to become visible. Switch from Trends to Channels of content from publishers like *Life* or *The Huffington Post*, or dig down through the categories in Interests. If you have a Twitter account, Seesmic Look offers a lot more. Sign in to see your own tweetstream, to check out what your friends are saying, or to monitor your Twitter lists.

World Leaders *in* Fighting Malware

Kaspersky Security

Leading Anti-Malware Provider for Business Users

Kaspersky Open Space Security is our approach to trans-perimeter network security where protection extends beyond the workplace to reach remote users and an increasingly mobile workforce.

KASPERSKY lab

- One solution for all network nodes and platforms
- Rapid response
- Protection for laptops everywhere
- Anti-rootkit technology
- Protection from identity theft
- Rollback of changes made by malware
- Self-defence against attacks
- Centralised administration
- Compatibility with third party solutions
- Free market leading support

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_MISCELLANEOUS FREEBIES

*** 7-Zip (www.7-zip.org).** Recent versions of Windows have built-in support for ZIP compression, but you need a dedicated tool to handle other popular compression formats such as RAR, TAR and GZIP. 7-Zip provides support for a multiplicity of compression formats and adds its own ultra-compressed 7Z format to the mix. It's very easy to use and integrates nicely with the Windows shell, so you can right-click a file or folder and zip it up with a click.

*** Aardvark (http://vark.com).** Want to know something? Why not ask your friends, or your acquaintances, or someone they know? Aardvark takes your questions and puts them out into your social network, delivering the answers via instant message. Every user fills out a profile, so Aardvark knows people's areas of expertise and tries to feed questions to the people most likely to have an answer. You can also follow conversations between others on the Aardvark site.

*** PortableApps.com (http://portableapps.com).** If you're on the move, PortableApps.com lets you whack a bunch of your favourite apps on a memory stick and take them with you, complete with your own settings. You can also pack your bookmarks and email. At the other end, plug in your memory stick and start using your own apps on whatever Windows computer is available to you. You don't install the apps, so there's no problems with compatibility and you leave no data behind. You can also grab the PortableApps.com Suite, which comes with a useful array of freeware programs, or pick and choose your own set of apps from almost a hundred available programs.

*** Notepad++ (http://notepad-plus.sourceforge.net).** Notepad++ is a powerful text editor. Designed for programmers, you can also use it to replace the far more limited Windows Notepad. It's compact and fast, but can handle large files with ease. It provides syntax highlighting and folding, including user-defined options, and it lets you launch your code directly from the editor, work on multiple files simultaneously, or view and edit in two different places within a single document at the same time.

*** Read It Later (http://readitlaterlist.com).** There's too much to read and you already have way too many sites bookmarked. Read It Later lets you keep a list of must-read articles tucked away in a corner of Firefox. Whenever you have a moment to spare, pop open your list, click a link and start reading. Or, if you'd prefer, grab a copy of those pages so you can read them when you're offline. Read It Later also comes as an iPhone app and you can sync your computer and iPhone lists. Or log in to Read It Later online from any computer and do your reading from there.

*** Media codecs.** Have you tried watching a downloaded video and don't have the right codec to view it? Grab MediaCoder (**www.mediacoderhq.com**), ffdshow tryouts (**http://ffdshow-tryout.sourceforge.net**) and Haali Media Splitter (**http://haali.su/mkv**) and you'll have all your bases covered.

Use the options to restrict your searches to particular types of content, such as photos, videos or comments on blog posts. Use the Share link to let others know about a search result via Twitter, Facebook, Mixx, Reddit, Delicious or StumbleUpon.

*** Cuil (www.cuil.com).** Although Cuil's developers claim they search three times as many sites as Google and 10 times as many as Microsoft, they're not interested in serving you millions of search results. Instead, they try to find the very best results and then they dig deeper into them. Cuil analyses site content and inter-relationships. The results are served up in something akin to magazine format, with a lead article followed by additional articles, complete with page summaries and images. Down the right-hand side are categories pertaining to your search. So, a search for time management practices produces categories such as management, personal development, motivation, self-help writers and so on.

*** Everything (www.voidtools.com).** Microsoft has gradually been improving its built-in Windows search, but even in Windows 7 it still leaves much to be desired. A tool like Everything fits very well side by side with Windows' own search. Everything lets you search for files and folders by name. It makes no attempt to index the contents of files, but it does index every single file and folder on your computer. It builds its index in a matter of seconds and it responds to your search queries almost the instant you press the keys. If you know any part of a file's name, Everything is the best tool for tracking it down quickly.

*** PicFog (http://picfog.com).** PicFog is a real-time image search for Twitter. It searches for picture links in tweets and displays the results in a grid of thumbnails. Click a thumbnail to see the full-size image and its details. PicFog can search by topic, Twitter user or location, with popular retweeted images moving to the top of the thumbnail grid. You can review the results as a slideshow or watch a real-time flow of all the images being tweeted. There's no filtering of results, though.

*** WolframAlpha (www.wolframalpha.com).** WolframAlpha launched amid much fanfare. Since that launch, this knowledge engine has been enlarging its huge store of data and refining its ability to understand complex queries. WolframAlpha excels at answering mathematical and physical questions, but it's also surprisingly adept at linguistics, history and even music. If you're wondering what to ask it, check out the gallery of examples. Perhaps the best thing about WolframAlpha is that all its data is curated, which makes it a welcome counterpoint to the not-always-reliable knowledge of the masses you'll find on sites like Wikipedia.

_WEB DEVELOPMENT & BLOGGING

*** Drupal (http://drupal.org).** If you need to build a web site that's highly flexible and can incorporate anything from a blog to forums and ecommerce, Drupal has you covered. It has quite a learning curve, but in the long run it makes light work of many highly complex tasks. Because it's open source, it has a huge community of developers creating themes and plug-ins (known as modules), and a large network of support resources.

*** Posterous (http://posterous.com).** With Posterous, you can create a blog by email. There's no need to sign up; just email your post's text plus photos, MP3s or video to **post@posterous.com**. You'll get a message back giving you your new blog site: ***yourname*.posterous.com**. It's deliciously simple yet surprisingly stuffed with features. Posterous lets you pick a theme or create your own. It provides email subscriptions for your blog; group blogging; blog comments; Google Analytics to track visitor stats; and interaction with Twitter, Facebook, Tumblr and other social networking sites. Send a single photo from your phone or your computer and Posterous resizes it sensibly; send a bunch of photos and Posterous automatically creates a photo gallery. If you've never blogged before, Posterous is the place to start.

*** WordPress.org (http://wordpress.org).** If you've butted your head against the constraints in Blogger, move up to a serious blogging tool. WordPress lets you build your own blog and host it on your own web site. (There's also WordPress.com, which provides a hosted blogging service akin to Blogger.) It provides a framework for building and administering your site, while an enthusiastic mob of open-source developers produces a stream of add-ons and themes you can use to add features and spiff things up. As with Drupal, there's a learning curve, but the payoff is huge. Although WordPress is primarily designed around blogging, you can use it to create any type of web site.

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Windows 7

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Up to 2 Hard Drives
Windows 7

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Up to 8Gb DDR3 RAM
Windows 7

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TERMINATOR P55

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Overclocked up to 4Ghz
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P55 Motherboard
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Windows 7

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BUDGET GAMER

Dual/Quad Core
P45 Motherboard
4Gb DDR2 RAM
Ati/Nvidia Graphics
Windows 7

FROM $849

NET-LITE PC

Dual Core CPU
G41MT Motherboard
Up to 4Gb DDR3 RAM
Up to 512Mb Graphics
Windows 7

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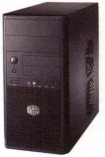

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UserOS Ultra 9.10 to the rescue

Darren Yates shows off *PC User*'s latest Linux-based operating system and its ability to work as a rescue disc.

Back in March 2008, we introduced our first home-grown Linux-based operating system. UserOS Ultra 7.10 became one of our biggest hits of the year and marked the first time anywhere in the world a computer magazine had put together its own operating system for its readers.

This month, we're releasing the second version of the UserOS Ultra operating system in UserOS Ultra 9.10. We've kept all of the major features that made Ultra 7.10 so popular and we've managed to add a couple of nice extras to create a highly featured yet lean and fast Linux operating system that's at home on new hardware or old.

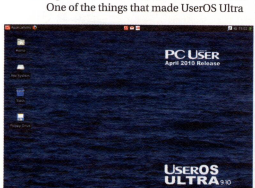
_WHAT'S INSIDE?

UserOS Ultra 9.10 is based on the basic Ubuntu operating system core nuts and bolts, although it has lots of extras and changes you won't find in Ubuntu or its once-lean cousin Xubuntu. These days, Xubuntu is almost the same size as Ubuntu, weighing in at over 650MB, while Ubuntu is 700MB.

We've built UserOS to carry lots of features, but unlike Ubuntu or Xubuntu, it's still small enough to install on a 512MB USB flash drive.

One of the things that made UserOS Ultra 7.10 so popular was its lightweight footprint, which made it lean and agile. Ultra 9.10 uses the Xfce desktop environment, which gives you a clean interface that's fast enough to run on older hardware. It'll also happily run in as little as 192MB of memory.

As for built-in applications, we've also chosen lightweight yet feature-rich versions — that means you won't find OpenOffice.org here, but you'll find lean alternatives such as AbiWord for word processing and Gnumeric for spreadsheets, both excellent apps that open, read, write and save Microsoft-compatible files.



The UserOS Ultra 9.10 desktop.

_PVR CAPABILITIES

As usual, we've focused on multimedia apps with UserOS, with the new feature this time being Me TV. With your own TV tuner card, Me TV can turn your PC into a personal video recorder (PVR). We incorporated this app into our UserOS Extreme 9.04 operating system (in the October 2009 issue) and we were so impressed with its function — and its small install size — we thought it the perfect fit here.

We've also included tools for video editing, iPod management, music playback, DVD playback and lots of audio/video codecs — basically, just about everything to get your multimedia playing.

There are lots of behind-the-scenes features, too, such as hardware driver updates, system software updates, firewall and print capabilities. While you'll find some of these features inside Xubuntu 9.10, what we've done is kept the basics we liked, added extra features we really liked and dumped all the stuff we didn't. In the end, we've created an operating system that's around 25% smaller than Xubuntu.

If you've never tried Linux before, UserOS Ultra 9.10 gives you the perfect excuse to give it a go — you can use it as a full-blown operating system, even on an older PC, or you can keep it handy as a rescue disc.

On the cover DVD

You'll find a copy of *PC User*'s exclusive UserOS Ultra 9.10 operating system on this month's cover disc, as well as our Linux USB Installer for Windows. And don't forget to watch Darren's video tutorial on how to install the operating system. UserOS Ultra 9.10 is freeware, but comes with no warranty whatsoever. While it has been tested extensively, you use it at your own risk.

UserOS's preinstalled applications

Multimedia	
Audacity	Multichannel audio editor
Brasero	CD/DVD burner
Exaile	Music player
gtkpod	iPod manager
Me TV	Digital TV DVB-T software
PiTiVi	Non-linear video editor
xine	DVD player
Office/graphics	
GIMP	Image editor
Ristretto	Image viewer
Xane	Desktop scanner software
AbiWord	Word processor
Gnumeric	Spreadsheet
Network/internet	
Claws Mail	Email client
Firefox 3.5.3	Web browser
gFTP	FTP client
GNOME PPP	Dialup modem
Transmission	BitTorrent client
Twitux	Twitter client
Accessories	
PCMan File Manager	File manager/data rescue
Flash video support	YouTube video
Gufw	Firewall
Hardware driver manager	—
Print manager/drivers	—
Mousepad	WordPad clone
Terminal	DOS prompt equivalent
OS update manager	—

MSI Wind owners beware

Changes to the power management setup of Ubuntu 9.10 seem to be causing problems with MSI Wind U100-series netbooks. Screen brightness changes cause the backlight to go haywire, virtually locking up the netbook while it runs around an endless software loop trying to set the brightness level. Unfortunately, we've not be able to fix this in Ultra 9.10, so Wind U100 users will need to give this a miss.

Create a rescue disc on CD or USB

New UserOS column

We can't possibly do UserOS Ultra 9.10 justice in a small feature, so from next month, our monthly Linux column will look at our exclusive UserOS operating systems. We'll show you how to get the most out of them, as well as how to modify them yourself to get them to do what you want.

UserOS Ultra 9.10 is ideal to use as a rescue disc. All you need to do is copy the ISO image from this month's cover disc to your PC's hard drive and then burn it to a CD.

However, you can't just do a normal data disc burn, you need to use software that will perform an ISO burn, so that the contents of the ISO image are extracted and recreated on the disc. If you don't have suitable software, you can download ImgBurn from **www.imgburn.com**. All you need to do is choose the 'Write image file to disc' option, click the tiny Browse button and select the ISO image. Make sure you load in a blank CD-R and then click the 'Burn disc' button. Once the process is finished, you'll have a bootable UserOS Ultra 9.10 disc with which you can boot up almost any PC.

To use the disc, you'll need to make sure that your PC or notebook is set to boot from the optical drive first. You may need to consult the manual for your notebook or PC's motherboard for details on how to adjust these BIOS settings. After that, start the PC, load in the CD-R and it should boot up with the UserOS Ultra 9.10 interface.

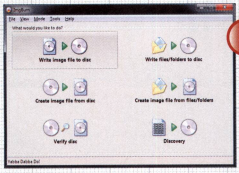
CREATING A RESCUE STICK

If your PC or notebook doesn't have an optical drive, don't worry — you can also create a bootable USB rescue stick that will virtually do the same thing. All you need is our exclusive Linux USB Installer software and the UserOS ISO image from the cover disc, plus a USB flash drive that's at least 512MB in capacity. A larger drive is fine, but you won't be able to use any remaining capacity, so you might as well limit it to a 1GB or 2GB stick at most, whichever you have spare.

First up, plug in the USB flash drive and make sure it's empty. Formatting it as a FAT32 file system would be ideal, just make sure you copy any important files from it first. Next, start up the Linux USB Installer software, select the flash drive, choose the location of the UserOS ISO image and click the Install button. The software will then make your flash drive bootable and extract the contents of the ISO image onto the drive. Once it's complete, you'll have a bootable flash rescue stick.

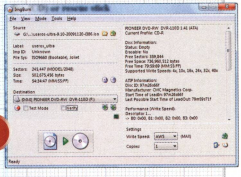
To use it, make sure the BIOS on your PC or notebook is set to boot from the flash drive first. Again, you may need to consult your motherboard or notebook's manual for instructions on changing the BIOS settings. Once that's done, plug in the flash drive, boot your PC and the UserOS Ultra 9.10 boot menu should appear. Use the "Try out UserOS Ultra" mode to try it without making changes to an existing PC.

stepbystep CREATE A USEROS RESCUE CD

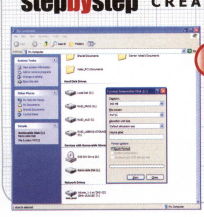


1 Copy the UserOS ISO image from the cover disc to your PC's hard drive. Install and launch ImgBurn. Click on the 'Write image file to Disc' button.

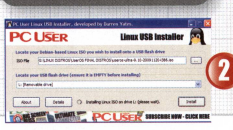
2 Click on the small Browse button and locate the ISO image you copied to your PC. Load a blank CD-R and click the 'Burn disc' button on the lower-left of the ImgBurn window. When the burn is completed, you'll have a bootable UserOS rescue CD.



stepbystep CREATE A USB FLASH RESCUE STICK



1 Plug in your USB flash drive (512MB minimum), copy any important files off it onto your PC's hard drive and then format the USB drive.



2 Copy the UserOS Ultra 9.10 ISO image off the cover disc to your hard drive. Install PC User's Linux USB Installer. If using Windows Vista or 7, right-click the Linux USB Installer launch icon and select 'Run as Administrator'. Choose the location of the ISO image, select the drive from the list and click the Install button. When installation is complete, wait for the USB drive's LED to stop flashing. The flash drive should then be a bootable rescue stick.

Rescue files from a broken Windows PC

You can picture it: you finish the assignment 11pm the night before it's due, you go to the computer in the morning, boot it up and it won't start Windows. While the temptation at this point is to break the glass and hit the panic button, if you have a UserOS rescue CD or rescue stick and a spare USB flash drive, all might not be lost.

Hard drive failures can come in different degrees of severity — if your PC won't boot into Windows, you might still be able to access and extract files that are located on the hard drive.

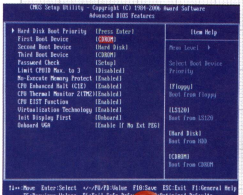
One of the key features of UserOS Ultra 9.10 is its ability to boot from a CD or USB flash drive. Another is the PCMan File Manager app installed in UserOS. What's cool about this app is that it allows you to look inside and access files on a PC's hard drive. If you plug in a spare USB flash drive, you can use PCMan File Manager to copy files off the PC's hard drive and onto that spare flash drive. Once that's done, you can take the flash drive to another computer and continue working.

_FIRST STEPS FIRST

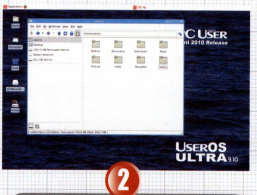
If the PC starts up, even though it won't load Windows, you've still got a chance. What you need to do is head into the BIOS settings and adjust them so that the PC will first boot from your preferred device — either a CD or a USB flash drive. You'll probably need to consult your PC motherboard or notebook's manual for details on how to do this. (Quite often, getting into the BIOS requires you pressing either the Delete or F12 keys when the PC first boots up, but this will depend on the motherboard or notebook.)

Make sure you plug in your USB rescue stick first so that the BIOS will recognise it — some motherboards need to see the drive to make it an option to boot from. If you're going to boot from the CD drive instead, now's a good time to load the rescue CD you have created into the optical drive.

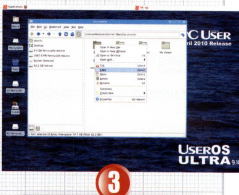
stepbystep SAVE FILES WITH A USEROS RESCUE CD



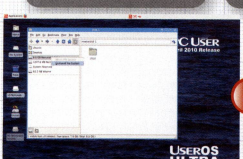
1 Start the computer. If it runs, get into the BIOS and make changes so that the optical drive is the first boot device (consult your PC motherboard or notebook manual for details). Save the changes, load your rescue CD and reboot.



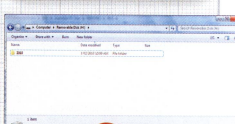
2 When the PC boots, you should see the main menu. Select 'Try out UserOS Ultra 9.10'. After a minute or so, you should see the UserOS Ultra 9.10 desktop. Launch the PCMan File Manager and check to see if the PC's hard drive appears (it'll appear as an entry, such as '80.0GB Volume'). If it doesn't appear, it's likely there's a more serious fault that may need more specialised treatment.



3 If the entry appears, click on it to list its folders. Locate the files/folder you're after. If they're there, plug in a USB flash drive or hard drive and copy the files/folders you're after.



4 When done, right-click the USB drive and select 'Unmount File System'. Wait until the drive name changes and the flash drive indicator LED stops flashing, then remove the drive and plug it into another PC.



5 Copy the files off the USB drive onto the new PC's hard drive and you should be able to continue working.

_REBOOT

Once those settings have been changed, you'll need to save them and reboot. Again, most PCs and notebooks use the F10 key to make this happen. If all is correct, you should see your PC boot from the appropriate drive and the UserOS menu appear. Choose 'Try out UserOS Ultra 9.10'. This is the default option, which will automatically kick in within 30 seconds of booting up.

Once you've done that, the UserOS desktop should appear within a minute or so. In order to see the contents of the PC's hard drive, you must use the PCMan File Manager, as it's the only one that can view the hard drive. The Thunar file manager can't see host hard drives if it hasn't booted off one. To launch PCMan, go to Applications —> Accessories —> 'PCMan File Manager'.

You should find PCMan pretty similar to Windows Explorer, with the drive panel on the left, and folders and files on the right. If the system's hard drive is working, you should see it listed in the drive panel as 'XX.XGB Volume', where XX.X is the numerical capacity of the drive; for example, '82.2GB Volume'. Click on that volume and if the drive still works, it should start listing its folders in the folder pane. If you plug in a spare USB flash drive, it should appear in the drive pane as 'Removable Volume'.

_SOFTLY, SOFTLY

At this point, you want to tread lightly. First, any changes to files here could potentially damage the Windows installation further; for example, if you get careless and start deleting files from C:\Windows. Secondly, if the drive has failed to start Windows, it might be due to a file corruption issue with Windows, but it could also be a more serious physical problem with the drive that's only likely to get worse.

The important thing is to go straight to the folders where your important files are located and start copying them to the USB flash drive. Once you get that data safely onto the drive, take it to another PC and check that you can open those files and continue working on them as before. Depending on the files, it might be safer to copy the complete work folder you were using, just so you grab any related files as well.

_TOP TIP

Use FAT32 or NTFS

When you're about to use a spare USB flash drive to copy files from a broken system, make sure the drive has been preformatted using FAT32 or, if need be, NTFS. UserOS Ultra 9.10 can read either Windows file system, but Windows can't generally read Linux file systems. In order to be able to read those copied files, make sure you start with a FAT32 or NTFS-formatted flash drive.

Install UserOS Ultra 9.10 onto a PC

While UserOS Ultra 9.10 is ideal for use as a rescue CD or rescue stick, we've also designed it to be a fast, lean, full-time operating system that you can use on a range of hardware, from the latest quad-core system to an older Pentium PC.

The first step is to follow the instructions under 'Create a rescue disc on CD or USB' on page 43 and create the install media you wish to use. Once you've done that, the next thing is to make sure your PC or notebook will boot up from that media. For this you may need to consult the PC motherboard or notebook manual for the correct BIOS settings.

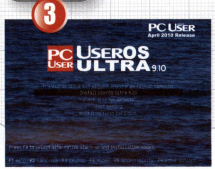
After that, it's a case of booting up the PC or notebook and selecting 'Install UserOS Ultra 9.10' from the UserOS Ultra boot menu. To start the installation, click on the Install icon on the desktop. From this point on, the installation process is the same regardless of whether you use a CD or USB stick. UserOS Ultra 9.10 needs a minimum of 192MB of memory and it should work well on any system with at least a Pentium III or Athlon processor. The ISO image is just over 500MB, although it'll need around 1.5GB when installed, so we recommend a minimum hard drive capacity of 15GB to make a real go of the operating system. We also recommend you use the CD option for older PCs, as they're less likely to understand how to boot up from a USB device.

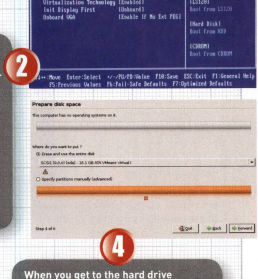
stepbystep INSTALL USEROS ULTRA 9.10

1 Create an installer USB stick or CD by following the instructions on page 43.

2 Set your PC to boot from your chosen install device (CD or USB). (Consult your manual for details on how to do this.) If you're using a USB flash drive, you may need to plug it in first before making any BIOS boot priority adjustments.

3 Boot up the PC and when you see the launch menu, select 'Install UserOS Ultra 9.10'. From there, follow the prompts.





4 When you get to the hard drive partitioning stage, choose whether to perform a dual-boot install (which maintains your PC's previous operating system) or a clean full install (which erases all data on the drive). We recommend the second option after first copying off any important data.

Best-value broadband plans

Alex Kidman reveals the best deals in the broadband market.

PC USER BEST BUY

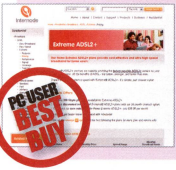
aaNet's bundled plan under $50 is fast and offers a generous data limit.

PC USER BEST BUY

Exetel's naked DSL plan under $60 delivers on all fronts: it's fast, has a 130GB quota and great call costs.

PC USER BEST BUY

iiNet's Home7 ADSL2+ plan offers a huge 180GB of downloads for $129.95 when bundled with a phone service.



PC USER BEST BUY

Internode's Easy Broadband plan is such good value, it received the nod in two categories. Plus, its Home-Extreme-200 unbundled plan was a winner in the brand-name players.

With the National Broadband Network looming, it's fair to expect that competition will hot up in the broadband marketplace. That's already the case in the wireless space, but what about plain old ADSL? *PC User*'s annual check on broadband pricing looked into the state of broadband plans in 2010.

_WHAT WE LOOKED FOR

We assessed broadband plans as advertised by vendors across six categories. Pricing in tiers ($30/$50/$60/$100 per month), a look into the big players' biggest plans and a check into the best-value naked DSL plans under $60. Picking the best plans across every category is tricky because different users have different needs. We concentrated on speed minimums at each price point and then on bandwidth allotment. Depending on both network conditions and distance from exchanges, you may get wildly different speeds, but the data allowance offered should always be available to you. The only notable variance is those ISPs that insist on calling their plans 'zero-month' plans. You're not going to use any ISP for a zero sum period. We've noted such plans as having one-month contracts, as that's what they are in a realistic sense. All plans are as per vendor web sites on February 3, 2010.

_BROADBAND UNDER $30

256Kbps barely counts as broadband, an observation we've made for many years now. It's not fast enough for gaming, not fast enough for VoIP and can be painful even for basic browsing. It does have the advantage of being always on, though, and if your budget is seriously constrained, then MOTIV's 8GB offering is fairly good. Lower-cost plans are still where bundling in your phone makes a lot of sense, as the same basic price can up that 8GB top to 20GB, courtesy of Netspace's 256 20 Anytime plan.

Best-value unbundled: MOTIV Communications 256kbps 8GB

Best-value bundled: Netspace 256 20 Anytime

What we looked for: 256/64Kbps or better, Rapid/Single Service Transfer, at least 200MB/month, uploads not counted, cheap/no excess usage fee for data, plans available nationally.

_BROADBAND UNDER $50

512Kbps brings with it VoIP and online video possibilities, and we were surprised at how fierce competition was at the middle of the ISP pool. Internode's Easy Broadband offers a huge 50GB allowance and either a very fast 1,500/256kbps connection or ADSL2+ if you're within signal distance of an Internode DSLAM. aaNet's ADSL2-Plan-3 plan is just as fast and is available either bundled or unbundled under our price ceiling, with the tempting carrot that only half of your off-peak downloads count towards your monthly quota.

Best-value unbundled: Internode Easy Broadband

Best-value bundled: aaNet ADSL2-Plan-4

What we looked for: 512/128Kbps or better, Rapid Transfer, at least 5GB/month, uploads not counted, no excess usage fees (or optional) for data, available nationally.

_BROADBAND UNDER $60

You might be a touch confused as to how one plan can win both the under $50 and under $60 categories, but it's actually pretty simple. There's just not that much competition that beats Internode's offering at either price point, especially if you're close enough to an ADSL2+ DSLAM. This is also the tipping point for bundled deals because while Westnet's bundled offering offers more data overall, it's only marginally so. Many bundled deals are good news for the ISPs, but not exactly compelling for consumers.

Buyer's checklist

* **Shaped or excess charges? We** searched for plans that used shaping — dropping the speeds to effective dialup speeds once bandwidth allocations were met — as a budget measure, but those who need more data from time to time may prefer plans that let you bolt on additional data packs. Just be sure you know how much data will cost you, as some ISPs are rather heavy-handed when it comes to excess data charges.
* **Contract length.** Some plans operate on a month-by-month basis, while others lock you in to longer terms. There can be security in a longer contract if plan fees rise, but at the same time, the 24-month contracts that some plans require are arguably a bit excessive for consumers to bear. ISPs naturally love them.
* **What's in the fine print?** What will your ISP charge you for early termination? For moving addresses mid-contract, even if you're not cancelling? How much notice do they have to give you before changing contract terms? How much does a printed mailed invoice cost? Are there internet services that they speed limit or outright block? All of this detail should be present in the terms and conditions document every ISP offers, and it's well worth perusing this document before signing on the dotted line.

Best-value unbundled: Internode Easy Broadband
Best-value bundled: Westnet Broadband 1 Option 4 (bundled)
What we looked for: 1.5MB/s or better, at least 20GB/month, no excess usage fees (or optional) for data, plans available nationally.

_BROADBAND UNDER $100

If you've got the cash to spend big on fast ADSL2+ with plenty of bandwidth, there's no shortage of ISPs ready to take your money. Locall's Fast & Furious plans offer plenty of bandwidth for those who need it in the unbundled space. In the bundled market, it's a lot murkier. The iPrimus Big Kahuna plan might look like an obvious winner with a meaty 200GB of total data allowance, but most of that is tied up in a short off-peak period and it's saddled with a mandatory 24-month contract, which is a very long time in broadband. iSage's bundled Iceberg 60GB is a little more contract-friendly, but not quite as data-rich and naturally enough, at this price point there's also a lot of competition from naked DSL products.
Best-value unbundled: Locall Australis Fast & Furious 50/50
Best-value bundled: iSage Iceberg 60GB (bundled) or iPrimus ADSL2+ Big Kahuna (bundled)
What we looked for: 8MB/s or better, Rapid Transfer (where feasible), at least 30GB/month, uploads not counted, no excess usage fees (or optional), ADSL plans available nationally.

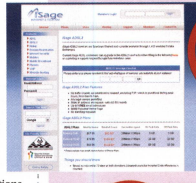
_BRAND-NAME PLAYERS

We have a tie in our best and biggest category. Technically, Internode's offering gives you more data on a monthly basis to play with and no peak/off-peak restrictions. It's also bundle-free, a rarity in the high-cost brand-name space. In return for bundling (and only slightly less data overall), iiNet's similar plan is a full $50 per month cheaper.
Best brand-name plan: Internode Home-Extreme-200 or iiNet Home7
What we looked for: The biggest, fastest, best plans as offered by the brand-name ISPs. If money was no object on a consumer plan and you were near enough to the exchange, these would be the plans to consider.

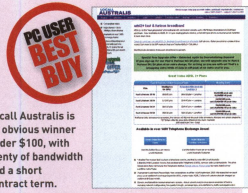
_NAKED DSL UNDER $60

OK, it's got the strangest name of any broadband plan we looked at, but for $60 including line rental, Exetel's plan delivers on all fronts. It's fast, you get a tasty 130GB of total data allowance, great call costs and a very competitive 50c/GB excess data

The Big Kahuna plan from iPrimus offers a massive 200GB of data downloads, although most of that is off-peak only.



As far as bundled plans go, iSage's Iceberg 60GB plan is good value, with a short contract term.



Locall Australis is an obvious winner under $100, with plenty of bandwidth and a short contract term.

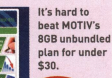
Tech terms

ADSL (Asymmetric Digital Subscriber Line). The base technology that delivers broadband via telephone lines. The older standard, usually just dubbed ADSL, delivers speeds of up to a theoretical 8,000Kbps, while ADSL2+ can deliver up to 24,000Kbps. Whether you can get ADSL or ADSL2+ depends on your proximity to the correct type of phone exchange.

Naked DSL. A type of ADSL2+ that strips out the standard phone line. The advantage here is that you don't have to pay a line rental charge for a naked DSL service, although you would need to swap normal phone service for a broadband-based VoIP service, or rely solely on mobile phone services.

Rapid Transfer/Single Service Transfer. ISPs that offer Rapid Transfer or Single Service Transfer will typically let you swap from a compatible ISP in a matter of days (Rapid) or hours (Single Service), and often for a much lower setup fee than a new service requires.

It's hard to beat MOTIV's 8GB unbundled plan for under $30.



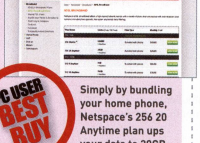
option to boot. The fly in the ointment may well be whether you can get them, as naked DSL is the one area where we couldn't find enough plans available for a true nation-wide search.

Best-value naked DSL: Exetel NF/23NoTel

What we looked for: Our entry-level price point was $30 and most line rentals hover around that. Naked DSL is meant to be all about value, so we wanted to see if the two amounts combined would equal better value than the standard entry-level plans.

PC USER BEST BUY

Westnet's bundled option under $60 combines a generous 60GB download limit with a phone service.



PC USER BEST BUY

Simply by bundling your home phone, Netspace's 256 20 Anytime plan ups your data to 20GB for less than $30.

ISP CONTACT DETAILS

ISP	Web address	Phone
aaNet	www.aanet.com.au	1300 665 076
AAPT	www.aapt.com.au	13 50 05
Aussie Broadband	www.aussiebroadband.com.au	1300 880 905
BigPond	www.bigpond.com	13 76 63
Dodo	www.dodo.com.au	13 24 73
EscapeNet	www.esc.net.au	1300 135 235
Exetel	www.exetel.com.au	1300 788 141
gotalk	www.gotalk.com.au	1800 700 934
iiNet	www.iinet.net.au	13 19 17
Internode	www.internode.on.net	13 66 33
iPrimus	www.iprimus.com.au	13 17 89
iSage	www.isage.net.au	1300 725 789
ITG Internet	www.itginternet.net.au	1300 660 484
Localll Australis	www.australis.net	1800 288 871
Montimedia Internet	www.montimedia.com.au	1300 794 969
MOTIV Communications	www.motivcom.com.au	1300 850 835
MyNetFone	www.mynetfone.com.au	1300 731 048
Netspace	www.netspace.net.au	1300 360 025
One Telecommunications	http://telecom.one.net.au	1300 663 663
Optus	www.optus.com.au	13 33 45
Rabbit Net	www.rabbit.com.au	1800 501 106
Spin	www.spin.net.au	1300 303 375
TPG	www.tpg.com.au	13 14 23
Westnet	www.westnet.com.au	13 19 60

BEST-VALUE UNBUNDLED PLANS UNDER $30: HOW THEY COMPARE

ISP	Plan name	Minimum monthly cost	Download/upload speed (Kbps)	Data limits (peak/off-peak)	Excess penalty	Contract length/ termination fee	Setup fee (new/ Rapid Transfer)	Supports Rapid Transfer/Single Service Transfer
MOTIV Communications	256kbps 8GB	$29.95	256/64	4GB/4GB	Shaped or 2GB/$4.95	1 month/$0	$129/$69.95	Yes/Yes
One Telecommunications	256 2	$29.95	256/64	2GB	Shaped	1 month/$0	$165/$110	Yes/Yes
EscapeNet	256k Starter	$29.90	256/64	1GB	Shaped	6 months/$99	$99/$35	Yes/Yes
Netspace	256 Starter	$29.95	256/64	500MB	15c/MB up to $49.95, then shaped	1 month/50% of remaining fees plus $65	$149/$39	Yes/Yes
Exetel	TL-A	$30	256/64	6GB	50c/GB	1 month/$100	$115/$90	Yes/Yes

BEST-VALUE BUNDLED PLANS UNDER $30: HOW THEY COMPARE

ISP	Plan name	Minimum monthly cost	Download/upload speed (Kbps)	Data limits (peak/off-peak)	Excess penalty	Contract length/ termination fee	Setup fee (new/ Rapid Transfer)	Supports Rapid Transfer/ Single Service Transfer	Cheapest line rental	Typical local call costs
Netspace	256 20 Anytime	$29.95	256/64	20GB	Shaped	1 month/50% of remaining fees plus $65	$149/$39	Yes/Yes	$29.95 (minimum $10 call spend)	25c
Spin	10GB Shaped	$29.95	256/64	10GB	Shaped or $10/GB	1 month/$300 pro-rata	$139/$59	Yes/Yes	$38.95 ($10 included calls)	19c
Westnet	Broadband1 Option 1	$29.95	256/64	2GB/2GB	Shaped	1 month/$0	$79.95/$39	Yes/Yes	$29.95	20c
Aussie Broadband	AAA1 1B	$29.95	256/64	2GB	Shaped	6 months/$65	$79/$79	Yes/Yes	$29.95	18c

All prices are as per vendor web sites at February 3, 2010. While all details are correct at the time of publication, please check with each provider as terms, conditions and pricing may change.

BEST-VALUE UNBUNDLED PLANS UNDER $50: HOW THEY COMPARE

ISP	Plan name	Minimum monthly cost	Download/upload speed (Kbps)	Data limits (peak/off-peak)	Excess penalty	Contract length/ termination fee	Setup fee (new/Rapid Transfer)	Supports Rapid Transfer/ Single Service Transfer
aaNet	ADSL2-Plan-3	$49.90	24,576/1,024	50GB	$3/GB	6 months/pro-rata on contract plus $55, capped at $100	$129/$129	Yes/Yes
Internode	Easy Broadband	$49.95	1,500/256 or 24,000/1,000	50GB	Shaped	1 month/$0	$129/$39 (Rapid Transfer) $129 (Single Service)	Yes/Yes
Netspace	512 30 Anytime	$49.95	512/128	30GB	Shaped	1 month/50% of remaining fees plus $65	$149/$39	Yes/Yes
iSage	Blizzard 512	$44.95	512/128	25GB/10GB	Shaped	6 months/$99	$99/$30	Yes/Yes
Spin	20GB Shaped	$49.95	512/128	20GB	Shaped or $10/GB	1 month/$300 pro-rata	$139/$59	Yes/Yes

BEST-VALUE BUNDLED PLANS UNDER $50: HOW THEY COMPARE

ISP	Plan name	Minimum monthly cost	Download/ upload speed (Kbps)	Data limits (peak/off-peak)	Excess penalty	Contract length/ termination fee	Setup fee (new/ Rapid Transfer)	Supports Rapid Transfer/Single Service Transfer	Cheapest line rental	Typical local call costs
aaNet	ADSL2-Plan-4	$49.90	24,576/1,024	60GB	$3/GB	6 months/pro-rata on contract plus $55, capped at $100	$129/$129	Yes/Yes	$34.90	16c
Netspace	1500 30	$49.95	1,500/256	15GB/15GB	Shaped	1 month/50% of remaining fees plus $65	$149/$39	Yes/Yes	$29.95 (minimum $10 call spend)	25c
iSage	Blizzard 512 (bundled)	$39.95	512/128	25GB/10GB	Shaped	6 months/$99	$99/$30	Yes/Yes	$29.95 (cheapest phone plan $8/month with $10 call credit)	18c
Montimedia	R512 24/7 Bonus	$49.95	512/128	24GB/7GB	Shaped	1 month/$85 within first 6 months	$69/$39	Yes/Yes	$24.95	17.5c
Internode	Home-Standard-20	$49.95	1,500/256	20GB	Shaped	1 month/$0	$129/$39 (Rapid Transfer) $129 (Single Service)	Yes/Yes	$29.95	18c

All prices are as per vendor web sites at February 3, 2010. While all details are correct at the time of publication, please check with each provider as terms, conditions and pricing may change.

ADSL2+

$0 SETUP

120GB

60GB Peak (8am-2am) + 60GB Off peak (2am-8am). Uploads not counted.

=

$49.99 PER MONTH

x 18 MONTHS = $899.82

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NO CONTRACT

Buy as many as you want

$14.99 PER MONTH

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= **$300**

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CONDITIONS APPLY

+ ONCE OFF $20 SIM + $20 DEPOSIT = $54.99 MIN CHARGE IN FIRST MONTH

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tpg.com.au | 13 14 23

TPG

DSL2+: Optimal ADSL2+ speeds require compatible ADSL2+ modem and filters. Early termination fee applies. ^ Once you use your peak/off peak quota, your connection speed shaped to 512K/512K. **MOBILE:** Purchase the TPG 49 Cap Saver with any TPG Broadband product and pay $14.99 per month (after once off SIM charge + deposit) for the mobile rvice. If your TPG Broadband product is suspended or terminated, monthly charge for 49 Cap Saver reverts to standard price of $19.99 per month. # 49 Cap Saver has $300 worth included eligible call types and data per month (Cap Inclusion). All calls charged at TPG's standard rates. Excluded from Cap are: premium SMS, Optus Zoo services, Third Party ontent, International and 190 calls and other Enhanced Services. * Get free calls between 8pm and midnight to any other TPG or Optus GSM mobile, every day, for the first 20 mins each call. Data service enabled on request. Plan fee payable monthly in advance. Mobile and deposit required for any excluded or excess usage. Mobile deposit automatically pped up if it falls below $5. Service barred if deposit topup payment fails. These offers may be withdrawn at any time. Available only in TPG coverage areas. For full terms, conditions d exclusions visit tpg.com.au.

BEST-VALUE UNBUNDLED PLANS UNDER $60: HOW THEY COMPARE

ISP	Plan name	Minimum monthly cost	Download/upload speed (Kbps)	Data limits (peak/off-peak)	Excess penalty	Contract length/ termination fee	Setup fee (new/ Rapid Transfer)	Supports Rapid Transfer/ Single Service Transfer
Internode	Easy Broadband	$49.95	1,500/256 or 24,000/1,000	50GB	Shaped	1 month/$0	$129/$39 (Rapid Transfer) $129 (Single Service)	Yes/Yes
EscapeNet	1500k Pro	$59.90	1,500/256	25GB	Shaped	6 months/$99	$99/$35	Yes/Yes
MOTIV Communications	1500kbps 50GB	$59.95	1,500/256	25GB/25GB	Shaped or 2GB/$4.95	1 month/$0	$129/$69.95	Yes/Yes
iSage	Snowfall 1500	$59.95	1,500/256		Shaped	6 months/$99	$99/$30	Yes/Yes
Spin	20GB Shaped	$59.95	1,500/256	20GB	Shaped or $10/GB	1 month/$300 pro-rata	$139/$59	Yes/Yes

BEST-VALUE BUNDLED PLANS UNDER $60: HOW THEY COMPARE

ISP	Plan name	Minimum monthly cost	Download/upload speed (Kbps)	Data limits (peak/off-peak)	Excess penalty	Contract length/ termination fee	Setup fee (new/ Rapid Transfer)	Supports Rapid Transfer/ Single Service Transfer	Cheapest line rental	Typical local call costs
Internode	Home-Standard-40	$59.95	1,500/256	40GB	Shaped	1 month/$0	$129/$39 (Rapid Transfer), $129 (Single Service)	Yes/Yes	$29.95	18c
Spin	40GB Shaped	$59.95	1,500/256	40GB	Shaped or $10/GB	1 month/$300 pro-rata	$139/$59	Yes/Yes	$38.95 ($10 included calls)	19c
iSage	Snowfall 1500 (bundled)	$54.95	1,500/256	20GB/5GB	Shaped	6 months/$99	$99/$30	Yes/Yes	$29.95 (cheapest phone plan $8/month with $10 call credit)	18c
Westnet	Broadband 1 Option 4 (bundled)	$59.95	1,500/256	30GB/30GB	Shaped	1 month/$0	$79.95/$39	Yes/Yes	$29.95	20c

All prices are as per vendor web sites at February 3, 2010. While all details are correct at the time of publication, please check with each provider as terms, conditions and pricing may change.

BEST-VALUE UNBUNDLED PLANS UNDER $100: HOW THEY COMPARE

ISP	Plan name	Minimum monthly cost	Download/upload speed (Kbps)	Data limits (peak/off-peak)	Excess penalty	Contract length/termination fee	Setup fee (new/ Rapid Transfer)	Supports Rapid Transfer/ Single Service Transfer
Locall Australis	Fast & Furious 50/50	$99.95	24,576/1,024	50GB/50GB	Shaped	1 month/$199 within 6 months	$179/$99	Yes/Yes
iSage	Iceberg 60GB	$99.95	24,576/1,024	60GB/20GB	Shaped	6 months/$99	$99/$30	Yes/Yes
EscapeNet	8000k Super	$99.90	8,000/384	50GB	Shaped	6 months/$99	$99/$35	Yes/Yes
ITG Internet	30GB ADSL2	$89.90	24,576/1,024	30GB/unlimited	Shaped or $7/GB	6 months/$79	$115/$0	Yes/Yes
Spin	30GB Shaped	$89.95	8,000/384	30GB	Shaped or $10/GB	1 month/$300 pro-rata	$139/$59	Yes/Yes

BEST-VALUE BUNDLED PLANS UNDER $100: HOW THEY COMPARE

ISP	Plan name	Minimum monthly cost	Download/ upload speed (Kbps)	Data limits (peak/off-peak)	Excess penalty	Contract length/termination fee	Setup fee (new/Rapid Transfer)	Supports Rapid Transfer/Single Service Transfer	Cheapest line rental	Typical local call costs
iSage	Iceberg 60GB (bundled)	$94.95	24,576/1,024	60GB/20GB	Shaped	6 months/$99	$99/$30	Yes/Yes	$29.95 (cheapest phone plan $8/month with $10 call credit)	18c
Locall Australis	Fast & Furious 50/50 (bundled)	$94.95	24,576/1,024	50GB/50GB	Shaped	1 month/$199 within 6 months	$179/$99	Yes/Yes	$29.95	18c
iPrimus	ADSL2+ Big Kahuna (bundled)	$79.95	24,576/1,024	40GB/160GB	Shaped	24 months/remaining fees on contract	$0/$0	Yes/Yes	$29.95	17.5c
Aussie Broadband	Mega1 4B	$99.95	8,000/384	40GB/40GB	Shaped	1 month/$65	$79/$79	Yes/Yes	$29.95	18c
iiNet	Home6	$99.95	24,576/1,024	75GB/75GB	Shaped	1 month/$69	$79.95/$39	Yes/Yes	$29.95	20c

All prices are as per vendor web sites at February 3, 2010. While all details are correct at the time of publication, please check with each provider as terms, conditions and pricing may change.

NAKED DSL PLANS UNDER $60: HOW THEY COMPARE

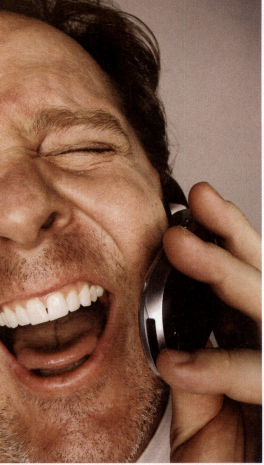
ISP	Plan name	Minimum monthly cost	Download/upload speed (Kbps)	Data limits (peak/off-peak)	Excess penalty	Contract length/ termination fee	Setup fee	Local VoIP call costs
Exetel	NF/23NoTel	$60	24,576/1,024	70GB/60GB	50c/GB	12 months/$100	$90	10c
Netspace	Naked ADSL2+ Super 40 Anytime	$59.95	24,576/1,024	40GB	Shaped	1 month/50% of any remaining monthly fees plus $65	$149	15c
Rabbit Net	ADSL 2+ 30GB Naked	$59.99	24,576/1,024	30GB	1c/MB	24 months/$165	$149	15c
MyNetFone	Naked ADSL2+ Standard Plan	$59.95	24,576/1,024	20GB/40GB	Shaped or $10/GB	1 month/$199	$30	12.5c
Internode	Home-NakedExtreme-20	$59.95	24,576/1,024	20GB	Shaped	1 month/$0	$129	18c
iiNet	Naked Home 2	$59.95	24,576/1,024	10GB/10GB	Shaped	1 month/$69	$79.95	Free, subject to fair use policy

All prices are as per vendor web sites at February 3, 2010. While all details are correct at the time of publication, please check with each provider as terms, conditions and pricing may change.

MAJOR PROVIDERS: HOW THEY COMPARE

ISP	Plan name	Minimum monthly cost	Download/upload speed (Kbps)	Data limits (peak/off-peak)	Excess penalty	Contract length/termination fee	Setup fee (new/Rapid Transfer)
BigPond	BigPond Liberty Elite ADSL	$179.95	24,576/1,024	200GB	Shaped	12 months/$360 pro-rated	$99 (includes phone)/$0
Optus	30GB Broadband	$99.99	24,576/1,024	30GB	Shaped	12 months/$199 pro-rata	$148 (includes phone)
iPrimus	ADSL2+ Big Kahuna	$89.95	24,576/1,024	40GB/160GB	Shaped	24 months/remaining fees on contract term	$0/$0
TPG	Super Fast Premium+ /150GB	$129.99	24,576/1,024	150GB	Shaped to 1Mbps	12 months/contract payout fee up to $350	$59.95/$59.95
Dodo	$94.90 Plan	$94.90	24,576/1,024	75GB/150GB	18c/MB	1 month/$0	$129.99 (includes phone)/$129.99
gotalk	Xtreme	$89.95 (metro), $104.95 (regional)	24,576/1,024	14GB/36GB	Shaped	1 month/$0	$199/$199
iiNet	Home7	$129.95	24,576/1,024	90GB/90GB	Shaped	1 month/$69	$79.95/$79.95 (includes phone)
Internode	Home-Extreme-200	$179.95	24,576/1,024	200GB	Shaped	1 month/$120	$129/$39 (Rapid Transfer), $129 (Single Service)
AAPT	LiveNet 60 Unlimited	$99.95	24,576/1,024	60GB/unlimited	Shaped	24 months/pro-rated up to $300	$0/$100

All prices are as per vendor web sites at February 3, 2010. While all details are correct at the time of publication, please check with each provider as terms, conditions and pricing may change.



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Best VoIP plans

Alex Kidman takes a closer look at VoIP providers to see which plans are worth making the switch.

Naked DSL has exploded over the past year, so most ISPs now have a VoIP-centred, line rental-free option available for customers. We've even seen a few pure VoIP players dip into the naked DSL market. But where does that leave pure VoIP players?

Surprisingly, it actually seems to have left them not doing a whole lot of anything. Compared to the plans on offer this time 12 months ago, there's not much change. In fact, for most of the VoIP companies we've surveyed in this feature, there's been no change at all.

You might expect that prices have dipped over time, but in most cases that's not occurred at all, with some call rates and plans going up marginally. There's clearly a market for VoIP for those who don't want to go down the full naked DSL route, but it seems as though pricing and competition has largely bottomed out. You can still make significant savings over PSTN phone line plans if you haven't tried VoIP previously, but existing VoIP customers who are happy with their provider don't have much impetus to change providers, at least on a cost basis.

Buyer's checklist

*** Do I have the right hardware?** Utilising VoIP will either involve a PC and headphones/microphone (if you go the softphone route), or a device that looks like a regular-style handset. Many VoIP providers will sell you a cheap handset, but they're usually locked to that provider.

*** Are my calling destinations covered?** Our East Timor check highlights this nicely. If the country you call most often isn't covered or is costly with one provider, check another. Prices vary widely and so do our calling needs, so the value varies.

*** What's in the fine print?** Some calling plans offer 'unlimited' calls, but are they really? Check the contract to see how much you can actually use VoIP from a given provider to make sure you'll get what you expect.

*** Do I have enough bandwidth?** VoIP may seem free, but each call uses up a portion of your internet data allowance from your ISP. Figures vary depending on the codec used (the algorithm that encodes and decodes voice into digital data), but if you plan on using roughly 1MB for every couple of minutes of calling time, you'll avoid bill or shaping shock. Likewise, most carriers list 512/128Kbps as a bare minimum speed for VoIP, so if you're on a slower plan or can't reliably get those kinds of speeds, VoIP might not be the best investment.

_HOW WE TESTED

We evaluated key plans from a number of Australian VoIP providers. These are based on their advertised prices and plans as of January 28, 2010. Prices and plans may vary over time, so be sure to check each vendor's web site for their latest deals and especially for any new conditions they may place on accounts.

Some VoIP providers offer zero-cost plans, although it's less common than it was 12 months ago. These have no ongoing subscription component and generally work on a prepaid basis familiar to many mobile phone users. Mid-range plans may introduce a monthly fee, usually in return for either cheaper overall call costs or some kind of call allocation. Finally, for those whose ears are constantly glued to the telephone — when they're not busy worrying about their phone bills, that is — we've included heavy-use plans.

As always, we've only assessed the plans as presented by each VoIP carrier. These are not comprehensive quality tests on each provider, something that would be highly subjective depending on the call conditions at the time of each test.

We've looked at local call costs — some providers consider all of Australia to be local, but not all do — as well as calls to Australian mobiles and three international destinations. The UK is a very common and usually cheap calling destination, while Fiji sits in a mid-range point. Finally, the world's newest nation, East Timor, was selected as a good choice for checking the carriers' more costly call destinations. One surprising result here was that a couple of VoIP providers still don't list East Timor as a calling destination at all.

Tech terms

DID (Direct Inward Dialling). Essentially, a service by which your VoIP connection is given a real phone number that any phone can call into. Aside from being contactable, the other benefit of having a DID (or several) is that callers can ring you at local call rates if the DID is in their local zone, even if you're not.

Naked DSL. A method of broadband provision that strips out the PSTN signal from your phone line. Most naked DSL services come with a VoIP plan bundled to make up for the loss of PSTN.

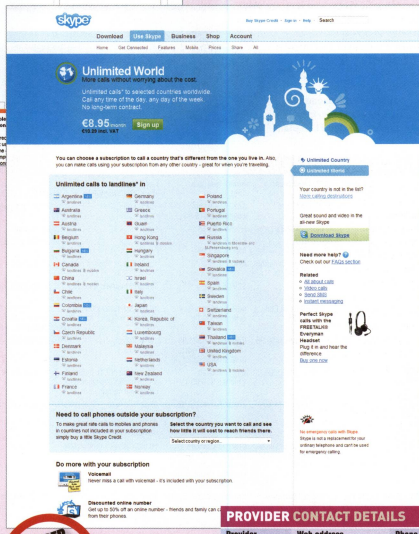
PSTN (Public Switched Telephone Network). The ordinary phone lines. VoIP calls (except between VoIP clients) will start on the internet, but at some point jump onto the PSTN network to end up at a real-world phone.

QoS (Quality of Service). A feature in many home routers that places priority on VoIP (or other) types of internet data to help ensure clear phone calls.

Softphone. A software-based phone client. Skype is an example of a softphone.

VoIP (Voice over Internet Protocol). Using your internet connection to make cheap phone calls.

This iiNet ADSL router offers VoIP connectivity straight out of the box.



PennyTel tops both the zero-cost (Free Access Untimed) and mid-range (Freedom) VoIP categories.

_ZERO-COST PLANS

There was a time when every VoIP carrier had a zero monthly cost plan. Those days are over it seems, with only PennyTel's excellent-value Free Access Untimed plan truly standing out, with cheap local and international call rates for no money up front. Highly commended honours are split: FaktorTel's local call costs are lower than MyNetFone's, but FaktorTel is one of only two VoIP carriers that didn't list a price for East Timor calls at all.

Best-value plan: PennyTel Free Access Untimed

Highly commended: FaktorTel $0 Per Month and MyNetFone SuperSaver

_MID-RANGE PLANS

If you wanted proof that there's not much change in the pure VoIP space, the mid-range plans provide it. While both the PennyTel Freedom and MyNetFone GlobalSaver offer good value compared to PSTN phone rates, they're pretty much exactly the same plans as were offered a year ago. There's little competition, just a choice between the 80 free calls on PennyTel's plan versus the 100 free calls that MyNetFone offers.

Best-value plan: PennyTel Freedom

Highly commended: MyNetFone GlobalSaver

_HEAVY-USAGE PLANS

Our award winner last year takes the crown again this year. Technically, SkypeOut is the one VoIP carrier whose rates have become cheaper in the last 12 months, but that's purely down to Skype charging in Euros and the exchange rate getting better, rather than any particular market decision on Skype's part. Still, unless you plan to talk for more than 10,000 minutes per month or need to call East Timor, it's good value. PennyTel's cheap rates put it in the highly commended category, combined with its offering of 150 free calls or 500 calling minutes.

Best-value plan: SkypeOut Unlimited World

Highly commended: PennyTel Crazy Talk

For heavy VoIP users, the value of Skype's World Unlimited monthly plan is hard to beat.

PROVIDER CONTACT DETAILS

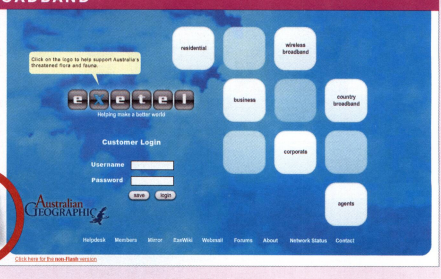
Provider	Web address	Phone
Ace Communications	www.acecommunications.com.au	1300 223 266
Engin	www.engin.com.au	1300 305 000
Exetel	www.exetel.com.au	1300 788 141
FaktorTel	www.faktortel.com.au	1300 731 625
FreeCall	www.freecall.net.au	1800 287 782
Freshtel	www.freshtel.net	1300 373 748
gotalk	www.gotalk.com.au	1800 700 934
iiNet	www.iinet.net.au	13 19 17
Internode	www.internode.on.net	13 66 33
kmoo	www.kmoo.com.au	1300 736 172
MondoTalk	www.mondotalk.com	1300 887 863
MyNetFone	www.mynetfone.com.au	1300 731 048
Netspace	www.netspace.com.au	1300 360 025
PennyTel	www.pennytel.com/au	1300 112 888
SkypeOut	www.skype.com	N/A
TPG	www.tpg.com.au/voip	13 14 23
Voise	www.voise.com.au	1300 799 280

_PLANS BUNDLED WITH BROADBAND

Bundling with your broadband provider still offers decent value, although those near enough to the relevant infrastructure should also check out naked DSL plans. Exetel's TL-B offering combines competitive pricing with a fair whack of potential data to use it with; however, we'd suggest keeping an eye on your overall usage, given that excess data usage is charged for. TPG's Ultimate bundle works well for those who can't (or won't) go with naked DSL.

Best-value plan: Exetel TL-B
Highly commended: TPG Ultimate 1500/25GB with VoIP

Our pick for VoIP bundled with broadband is Exetel's value-for-money and data-filled TL-B plan.



BEST-VALUE UNBUNDLED VoIP PLANS: HOW THEY COMPARE

Provider	Zero-cost plan	Mid-range plan/ cost	Heavy-use plan/ cost	Local call cost (Zero/Mid/Heavy)	Australian mobile call cost (Zero/Mid/Heavy)	UK call cost (Zero/Mid/Heavy)	Fiji call cost (Zero/Mid/Heavy)	East Timor call cost (Zero/Mid/Heavy)
Ace Communications	N/A	Ace VoIP/$9.95	Ace VoIP Home Advantage/$19.95	10c untimed/free	27c/22c/minute	3.5c/minute/free	59c/minute	$2.41/minute
Engin	N/A	National/$14.95	Home +/$19.95	Free	22c/minute	3.5c/minute/free	59c/minute	93c/minute
FaktorTel	$0 Per Month	$5.95 Per Month/$5.95	$19.95 Per Month/$19.95	12c/9c/free	27c/20c/18.9c/minute	1.9c/minute/1.9c/ minute/free	45.3c/minute	Not listed
FreeCall	N/A	$5/month for minimum six-month blocks	N/A	1c/minute or 10c untimed	22c/minute	2c/minute	27c/minute	47c/minute
Freshtel	FREE	$9.95	$29.95	10c untimed/10c untimed/ free	27.5c/20c/15c/minute	4.3c/2.1c/1.5c/ minute	38.3c/36.1c/ 26.5c/minute	76.3c/74.1c/54.3c/ minute
gotalk	goVoIP Starter Plan	goVoIP Aussie Plus Pack/$29.95	goVoIP Aussie Plus & World/$39.90	14.9c (Starter)/1,000 calls included, 9.9c/call thereafter	24.9c/minute (Starter)/200 calls or 700 minutes, 19.9c/minute thereafter	1.7c/minute (Starter)/free	50c/minute	$1.55/minute
kmoo	N/A	Pay-As-You-Go/$9.95	Pre-pay 25+/$24.95 (includes $25 worth of Australian calls)	10c untimed	27c/minute	3.5c/minute	40c/minute	$2/minute
MondoTalk	N/A	OzTalk Untimed/$9	City GrandTalk Untimed/$39.95	9.1c untimed/9.1c untimed to Australian capital cities, otherwise 4c/minute	15.46c/minute	2.1c/minute	59.2c/minute	$1.21/minute
MyNetFone	SuperSaver	GlobalSaver/$14.95	JumboSaver/$19.95	12.5c/10c (with 100 provided calls per month)/10c (with 250 provided calls per month), all untimed	24c/20c/20c/minute	1.9c/minute (GlobalSaver 100 free calls can be used)	55c/minute	$3.65/minute
PennyTel	Free Access Untimed	Freedom/$5 (includes 80 free calls a month to specified destinations)	Crazy Talk/$18.88 (includes 150 free calls or 500 minutes to specified destinations and Australian mobiles)	8c untimed/8c untimed/free	10.5c/minute	8c untimed	28.8c/minute	$2.10/minute
SkypeOut	Skype Pay As You Go	Unlimited Country/ €3.95	Unlimited World/€8.95	€0.017/minute/free (10,000 minutes per month)/free (10,000 minutes per month)	€0.165/minute	€0.017/minute/ €0.017/minute/free (10,000 minutes per month)	€0.233/minute	Not listed
Voise	N/A	Voisetalk/$9.90 (includes $10 call credit)	N/A	10c untimed	27c/minute	3.5c/minute	59c/minute	$2.64/minute

All prices are as per vendor web sites at January 28, 2010. While all details are correct at the time of publication, please check with each provider as terms, conditions and pricing may change.

BEST-VALUE BUNDLED VoIP PLANS: HOW THEY COMPARE

Provider	Best VoIP plan/ monthly cost	Local call cost	Australian mobile call cost	UK call cost	Fiji call cost	East Timor call cost	Sample broadband plan/cost	Download/upload speed (Kbps)	Included data	Shaping/ excess cost
Exetel	Post VoIP 0/free	10c untimed	22c/minute	2c/minute	50c/minute	$1.12/minute	TL-B/$35	512/128	12GB	$0.50/GB
iiNet	VoIP/$9.95	15c untimed	29c/minute	5c/minute	59c/minute	$1.59/minute	home 2/$39.95	24,576/1,024	2GB/2GB	Shaped
Internode	NodePhone2-Premium /$20 with $40 call credit	18c untimed	29c/minute	5c/minute plus 15c flagfall	33c/minute plus 15c flagfall	$2.23/minute plus 15c flagfall	Home-512-Starter/$39.95	512/128	5GB	Shaped
Netspace	Netspace VoIP/free	15c/30 minutes, 3.5c/ minute thereafter	29c/minute	4.9c/minute	56c/minute	$3.65/minute	512 5 Anytime/$29.95	512/128	5GB	Shaped
TPG	Ultimate 1500/25GB with VoIP/$49.95	10c untimed (500 minutes free calls to Sydney, Melbourne, Brisbane, Adelaide, Canberra and Perth)	28c/minute	2c/minute, 10c minimum	35.5c/minute	$2.11/minute	Included in plan; free plan also available with softphone	1,500/256	10GB/ 15GB off-peak	Shaped

All prices are as per vendor web sites at January 28, 2010. While all details are correct at the time of publication, please check with each provider as terms, conditions and pricing may change.

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1GB $14.95 per month
2GB $24.95 per month
6GB $49.95 per month

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* Nexus plans are subject to our Acceptable Use Policy (AUP). 39c flagfall applies for all non-local and non-national calls. Timed calls are billed in 30 second increments. After the cap time has passed, you will be charged at the nominated rate as detailed on our website. Minimum total cost over 12 months $599.40 (calls which are not included are additional). Nexus plans are only available to Residential customers . Early termination fees apply. Direct Debit or Credit Card only. ^ Peak 2GB (9am-2am EST), Off-peak 6GB (2am-9am EST). Includes $9.95 VoIP Pack. Other calls are additional. Minimum total cost over 1 month $278.90 (includes set-up fee). Early termination fees apply. Direct Debit or Credit Card only. # $15 modem delivery fee applies. Coverage not available in all areas. Data usage includes both downloads and uploads. Excess usage over the data limit is 14c/MB. 1GB minimum total cost over 24 months $373.80. 2GB minimum total cost over 24 months $613.80. 6GB minimum total cost over 24 months $1333.80. Early termination fees apply. Direct Debit or Credit Card only.

Broadband on the go

David Flynn tests mobile broadband plans for speed, value and reliability.

Tech terms

3G. This refers to the third-generation digital mobile phone technology that enables high-speed data. Most 3G networks use the 2,100MHz band. However, 3G technology can also be used on other bands, such as the 850MHz of Telstra's Next G network and the 900MHz regional networks of Optus and Vodafone.

HSDPA (High-Speed Downlink Packet Access). The technology used on 3G networks to boost data throughput to true broadband-grade speeds. The most common current HSDPA standards are rated at 3.6Mbps (HSDPA 3.6) and 7.2Mbps (HSDPA 7.2) for downloads, although the real-world speeds are typically half to a third of those theoretical ceilings.

Latency. The time taken for a data packet to be sent to an online server and an acknowledgement received from that server. Low latency (less than 250ms) means a snappy response to surfing and watching online video. Higher latency causes video stuttering and makes VoIP unusable.

Mbps (megabits per second). High-speed ADSL services range from 1.5Mbps to 8Mbps, with up to 24Mbps for ADSL2+. 3G mobile broadband services commonly deliver between 1Mbps and 4Mbps.

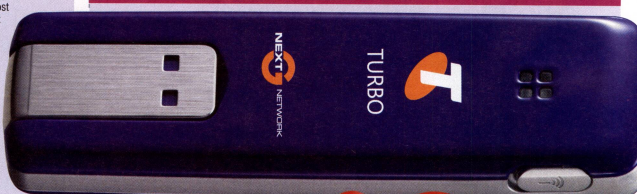
Every year we conduct our annual mobile broadband tests seems like the best year yet for internet on the go and 2010 is no exception. It was expected that prices would fall and data allowances would increase, but Telstra has finally seen the light of day and made its Next G plans much more appealing. The growth of network resellers has further fuelled competition and choice.

Several mobile ISPs are now offering a choice between standard and high-speed USB modems to appeal to mainstream users and mobile mavens alike. The rollout of regional 900MHz 3G networks by Optus and Vodafone also brings mobile broadband within reach of more Australians.

For the sake of comparison, we conducted this year's tests in the same Sydney CBD and North Sydney locations we used in 2009. Of course, the results will differ in suburbs and other cities.

Our pricing table samples the most appropriate mobile broadband plans for three typical usage levels, based on the four carriers and three of their resellers. Check each mobile ISP's web site for details of additional plans to suit your specific budget and data needs.

_REVIEWS



TELSTRA BIGPOND

PHONE 13 76 63 / **WEB** www.bigpond.com

90%

PC USER BEST BUY

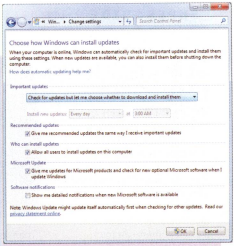
With an extraordinarily wide reach, consistently high speeds and the ability of its 850MHz signals to hammer into some areas where the 2,100MHz 3G band can't reach, Telstra's Next G network ticks all the tech boxes. Thankfully, 2010 sees Telstra tick the value box as well. Prices have been slashed, data limits boosted and the outrageous excess usage fees ditched in favour of a 64Kbps speed limit, although the option to buy data packs would be welcome. Next G mobile broadband plans are still the most expensive on the market by an average 50%, but narrowing the price gap to its competitors makes it easier to justify paying a bit extra for the network's superior performance. Bundling discounts for Telstra landline and mobile services can lop an additional $20 per month off your bill. The USB modems still carry a hefty upfront hit — $299 for the BigPond Turbo modem and $399 for the 8Mbps-rated BigPond Elite — but if you sign a 24-month contract, you get a respective rebate of $200 or $300.

We noted a performance bump against 2009's testing, with 4Mbps in North Sydney and our Sydney cafe plus 2.8Mbps in the CBD office tests. We should point out that Optus matched these results, which indicates that for Sydney CBD use, its cheaper plans could be a better bet.

PC User says: Still the obvious choice for travellers and those who demand consistent speed and coverage.

Buyer's checklist

* **Fast or faster?** Optus and Telstra both offer a high-speed USB modem for an additional charge over the standard modem. Check that the network in your local area runs at the same speed — if you live in an area where the cell base stations haven't been upgraded, you may find no added benefit.
* **Are you covered?** Check that your home, office, local cafe strip or other areas you'll want to use your mobile broadband service fall within the network's coverage area. Ask if there's any way you can trial the service before committing to a contract.
* **No Torrents.** Because 3G mobile broadband services count uploads as well as downloads in their monthly data allocation, we suggest you avoid running peer-to-peer file-sharing applications like BitTorrent.
* **Avoid unnecessary downloads.** Unless you've got a high usage cap, leave downloads until you're at the office or home and running off your ADSL service. Disable the default to have Windows automatically download new updates. Change this to having the OS alert you when there are updates so you can download them over the office or home network.



Conserve your 3G data allowance by disabling Windows Automatic Updates.

OPTUS

PHONE 1300 300 937 / **WEB** www.optus.com.au

80%

Compared to last year's tests, Optus is the big improver for 2010. A year ago, we noted that Optus had solid speeds in the Sydney CBD, but hammered the service for its high latency figure of 750ms, compared to 100ms for Telstra and an average of 200-300ms for Vodafone. Such high latency can make a mobile connection almost useless for everything from web browsing (due to jumbled page layouts with missing elements) and VoIP, to online video, which freezes as content is constantly buffered. Optus seems to have made good on its word to amp up the network, which also suffered overcrowding from iPhone customers. This year, not only was latency down to an average of 100ms in the Sydney CBD, but speeds had also shot up: we clocked 4Mbps at a city cafe that last year recorded 2.4Mbps, and 3.4Mbps in an office which in 2009 delivered a still decent 2.7Mbps. We're well aware that the Optus network is anecdotally considered a bit hit and miss. Our tests were only for a handful of locations in the city CBD, so your results almost certainly will vary.

PC User says: Our Sydney CBD results put Optus back near the front of the mobile broadband pack.

VIRGIN MOBILE

PHONE 13 25 45 / **WEB** www.virginbroadband.com.au

75%

Virgin Mobile is the best-known example of the trend towards Virtual Mobile Network Operators (VMNOs) that resell the services of a 3G network under their own branding and identity. In the case of Virgin Mobile, you're actually using the Optus network — you'll get the same performance on Virgin as you do with Optus. In this year's round of testing, that stands up pretty well for the Sydney CBD. But if you're on the same network, why would you choose Virgin over Optus? Virgin's plans are slightly cheaper on a month-by-month basis, unless you choose the Optus $99 upfront modem deal. Virgin offers its USB modems at $5 per month in the $24/1GB and $34/2GB plans (the data costs are $19 and $29, respectively) and free on the $34/5GB plan, which is clearly the pick of the bunch. However, Virgin runs a 24-month contract, while Optus will set you free after a single year. Also noteworthy is Virgin's excess usage policy. Instead of a per-MB charge, your speed is cut to 128Kbps for the first 250MB over your limit; the account then becomes inactive until the next billing cycle begins, unless you buy a data pack, which starts at $15 for 500MB.

PC User says: Virgin's monthly prices are keener than those of its parent Optus, but with twice the lock-in period for your contract.

3

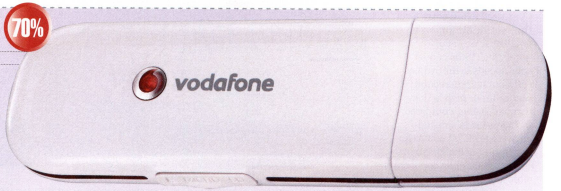
PHONE 13 16 83
WEB www.three.com.au

The biggest change for 3's mobile broadband service has been the introduction of national roaming onto Telstra's Next G network to offset 3's limited 3G coverage. 3 has the smallest footprint of any of the Australian mobile carriers, but outside this, customers can roam onto Telstra's high-speed Next G network. Each mobile broadband plan includes a nominal roaming allowance ranging from 2MB to 5MB, after which you're charged 50c per MB. You can disable 3G roaming to avoid being hit by excess charges if you travel. 3 has upgraded its USB modems to work on Next G's 850MHz band, although because it doesn't like to mention its competitor/ally by name, the modems are branded as MEGA 3G and the extended network coverage is called a 3G Roaming Zone. As with Vodafone, 3's performance matched up against our 2009 tests. We recorded a pedestrian 1.5Mbps in North Sydney, the same speed punching into an inner-city office and a nippy 2.5Mbps at a CBD cafe. Despite the trend towards 12-month contracts, 3 insists that customers sign up for 24 months.

PC User says: **If you plan to stay within the footprint of 3's own 3G network, this is still the best bang for your buck.**

VODAFONE

PHONE 1300 650 410
WEB www.vodafone.com.au



Vodafone's pricing and performance remains pretty much on par with what we saw last year. The entry-level plan is the same $25/1GB — $20 for the data and $5 for the modem — although this is available only on a 24-month contract. The meatier plans, which are also available on a 12-month contract, are $30/3GB, $40/6GB and $50/7GB. The past year saw Vodafone flick the switch on its 900MHz regional 3G network to deliver mobile broadband to many towns outside the reach of its primary 2,100MHz network. Its USB modems work on both bands, so business travellers and holiday-makers stand a better chance of remaining online once they head out of the big smoke. And if you're really keen, Vodafone offers roaming data bundles so you can use mobile broadband overseas on your laptop: see **http://tinyurl.com/yb49lgx** for more details. The results of our tests in the Sydney CBD mirrored those of last year: 1.9Mbps in a city cafe, a less impressive 1.4Mbps in North Sydney, and total failure to obtain a signal in a CBD office.

PC User says: **While Vodafone's pricing is keen, you should assess the coverage in your local area before signing on the dotted line.**

Mobile broadband resellers

When you're shopping for mobile broadband, don't overlook the many companies that resell an existing carrier's capacity under their own brand and with their own plans, modems and support staff.

Virgin Mobile is perhaps the best known of these, but it's far from the only one. Mobile phone specialist Crazy John's is a VMNO for Vodafone, for example.

Several ISPs resell 3G mobile broadband as a natural complement to their ADSL offerings. Internode and Exetel resell for Optus, and iiNet for 3. However, don't always assume a reseller will offer lower prices. For example, iiNet's plans are identical to those of 3. And Internode's $15 NodeMobile Data Explorer plan includes just 500MB of data, which is half of what Optus offers for the same amount of money. The $40/5GB NodeMobile Data Value plan is pretty much on par with the Optus $35/4GB plan.

Both Internode and Optus charge $99 up front for the USB modem, although Internode includes this if you commit to a 24-month contract.

A key difference is that Internode pipes its own highly-regarded internet service over the Optus 3G network, rather than reselling the entire Optus internet service — in effect, all Internode does is use the Optus 3G network as a wireless replacement for Internode ADSL. This should boost back-end performance, but of course you're still at the whim of the wireless connection for actual signal strength and speed.

Internode also treats excess usage differently. While Optus charges 6c per MB, Internode simply turns off the tap until your account's next monthly rollover date unless you buy a block of additional data, which starts at $10 for 250MB. These very different approaches will appeal to different users.

Exetel's plans are almost the same as Optus, for which it acts as a reseller, with the exception that there's no contract — it's a straightforward month-by-month deal.

The cheapest plan of another Optus reseller, iPrimus, costs twice as much as Optus — $30 for 1GB against Optus's $15. But $40 gets you 6GB and a modem over a 24-month contract, compared to $35 for 4GB from Optus.

Telstra's prepaid wireless broadband starter pack includes the option of the high-speed Turbo modem.

iPrimus also throttles the connection back to almost useless dialup speeds once you exceed your monthly data allowance, although you can add extra data, starting at $6 for 1GB.

The offerings from Crazy John's are a mixed bag. There's an entry-level $15/1GB plan, which Vodafone lacks on the same 12-month contract basis, and includes a modem. However, Vodafone's $30/3GB plan boasts 50% more data than the $29/2GB package from Crazy John's.

Many resellers also have their own prepaid mobile broadband plans, so those are worth considering if you want a pay-as-you-go (PAYG) option.

_PREPAID BROADBAND

Prepaid wireless broadband is steadily increasing in popularity. All four carriers and many of their resellers now offer the freedom and flexibility of a PAYG package instead of being locked into a contract with fixed monthly spend.

Of course, prepaid's casual rates are generally more expensive than an equivalent contract-based data deal. Continued price cuts in the highly competitive market also mean you could still be better off on an entry-level contract plan if your mobile broadband usage remains fairly constant from month to month.

For example, it'll cost you $99 to buy the modem for Optus's prepaid or 12-month contract (post-paid) plans. But while $15 on the prepaid account buys just 500MB of data with a 15-day expiry, the same amount gets you 1GB per month on a contract.

However, to cope with a more varied usage pattern of ups and downs, prepaid wireless broadband is hard to beat.

There are two components to prepaid mobile broadband. The first is a starter kit containing a USB modem and usually, but not always, a chunk of data to get you up and running. At the time of writing, the bundled data was typically 1GB, although Exetel and 3 didn't include any data — customers need to buy this separately.

Just like a prepaid mobile phone account, PAYG mobile broadband also requires that you recharge or 'top up' the account. Each top-up has an expiry date by which all of that data must be used, although you can roll over unused slabs of data from one month to the next when you recharge the account.

Some mobile ISPs like Telstra have a standard 30-day use-by

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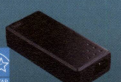

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Website: www.huntkeydiy.com

period on all recharges, while others offer an extended expiry period for more expensive top-ups. Vodafone and 3 range from 30 days for their 500MB data packs to a full year if you pay up for 12GB.

Optus and Vodafone will also boost the data allowance in each recharge pack by 15% and 10%, respectively, if you buy the recharge online instead of over the counter.

However, be on the lookout for nasty caveats hidden in the fine print of prepaid plans, the worst of which is the insistence by Optus on counting prepaid mobile data in 10MB increments, compared to the 1KB steps that are the norm for most prepaid and contract plans (although Vodafone charges in 1MB steps).

This means that every time you fire up your Optus prepaid mobile broadband connection, 10MB is lopped off your data allowance as soon as you connect. Even if all you do is visit a single web page, download a single email or update your Facebook status, it counts as 10MB. If you're in a weak signal area and the connection drops out, that's another 10MB gone. Optus has granted one concession — the first 30MB of usage each day counts only as 10MB. However, once you go past 30MB in any given day every subsequent session will be counted as at least 10MB.

This is where choosing a mobile broadband reseller can deliver you a better deal. Exetel and Virgin use the Optus network, but both of their prepaid plans count data in more realistic 1KB increments. They also offer better value for recharges. The 30-day expiry on Virgin's $15/500MB pack is twice that of Optus's $15/500MB pack, and while $30 gets you 1GB with a 30-day expiry on Optus and Virgin, Exetel doubles the data to 2GB and extends the use-by date to 90 days.

MOBILE BROADBAND PLANS: HOW THEY COMPARE

Provider	3	Crazy John's	iPrimus	Optus	Telstra BigPond	Virgin Mobile	Vodafone
Web	www.three.com.au	www.crazyjohns.com.au	www.iprimus.com.au	www.optus.com.au	www.bigpond.com	www.virginbroadband.com.au	www.vodafone.com.au
Phone	13 16 83	13 22 99	13 17 89	1300 300 937	13 76 63	13 25 45	1300 650 410
LIGHT USAGE							
Cost per month	$15	$15	$30	$15	$40	$19	$20
Modem	$4 per month	Included	$5 per month	$99 up front	$299 up front	$5 per month	$5 per month
Data allowance	1GB	500MB	1GB	1GB	1GB	1GB	1GB
MEDIUM USAGE							
Cost per month	$29 per month	$29	–	$25	$50	$29	$30
Modem	$4 per month	Included	–	$99 up front	$299 up front	$5 per month	Included
Data allowance	3GB	2GB	–	2GB	3GB	2GB	3GB
HEAVY USAGE							
Cost per month	$49	$49	$40	$55	$80	$34	$50
Modem	Included	Included	Included	$99 up front	$299 up front	Included	Included
Data allowance	7GB	7GB	6GB	7GB	6GB	5GB	7GB
Excess data	10c/MB	10c/MB	Speed limited to 64Kbps; extra data packs from $6/1GB	6c/MB	Speed limited to 64Kbps	Speed limited to 128Kbps for 250MB, then disconnected; extra data packs from $15/500MB.	10c/MB
Notes	–	–	–	High-speed modem available for $149 up front or $12.40/ month	High-speed modem available for $399 up front; $200-$300 modem rebate on 24-month contract	3G Wi-Fi modem available for $8 per month	–

Prices are as per vendor web sites in early February, 2010. While all details are correct at the time of publication, please check with each provider as terms, conditions and pricing may change.

PREPAID MOBILE BROADBAND PLANS: HOW THEY COMPARE

Provider	3	Crazy John's	Exetel	Optus	Telstra BigPond	Virgin Mobile	Vodafone
Web	www.three.com.au	www.crazyjohns.com.au	www.exetel.com.au	www.optus.com.au	www.bigpond.com	www.virginbroadband.com.au	www.vodafone.com.au
Phone	13 16 83	13 22 99	1300 788 141	1800 780 239	13 76 63	13 24 45	1300 300 404
STARTER KIT							
Cost	$79	$79	$95	$99	$99	$89	$79
Included data	None	1.5GB	None	1GB	1GB	1GB	1GB
RECHARGE (DATA/EXPIRY)							
$15	500MB (30 days)	N/A	550MB (30 days)	500MB (15 days)	N/A	500MB (30 days)	N/A
$20	N/A	750MB (30 days)	1GB (30 days)	650MB (15 days)	150MB (30 days)	N/A	500MB (30 days)
$30	2GB (30 days)	1.5GB (30 days)	2GB (90 days)	1GB (30 days)	225MB (30 days)	1GB (30 days)	1GB (30 days)
$40	N/A	N/A	N/A	2GB (30 days)	300MB (30 days)	N/A	N/A
$50	4GB (30 days)	3.5GB (30 days)	N/A	3GB (30 days)	625MB (30 days)	3GB (60 days)	3GB (30 days)
$80	N/A	4.5GB (180 days)	N/A	4GB (186 days)	3.5GB (30 days)	N/A	N/A
$100	N/A	N/A	N/A	6GB (60 days)	6GB (30 days)	6GB (90 days)	6GB (180 days)
$150	12GB (365 days)	12GB (365 days)	N/A	N/A	N/A	10GB (365 days)	12GB (365 days)
Notes	Plans include between 2MB and 12MB for roaming onto Telstra's Next G network, after which usage is charged at $7.50/15MB	Entry-level plan is $10/200MB (15 days expiry)	Other plans include $45/3GB, $55/4GB, $90/6GB (all with 90-day expiry)	Highest plan is $130/8GB (186-day expiry); all plans include 15% extra data if you recharge online via credit card	Starter kit is available with high-speed Turbo modem for $149	Starter kit is available with 3G Wi-Fi modem for $199	All plans include 10% extra data if you recharge online via credit card

Prices are as per vendor web sites in early February, 2010. While all details are correct at the time of publication, please check with each provider as terms, conditions and pricing may change.

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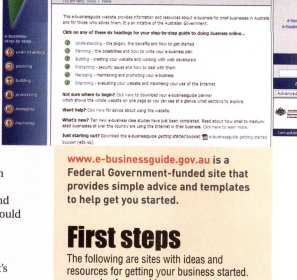
FEATURE

Making money online

Kurt Best walks you through the steps for setting up your own online business.



The past decade has seen the rise of online businesses that started from humble spare rooms or garages. While almost every business starts small, what makes online businesses unique is the ability to reach out online and grow without ever moving out of backyard premises. Despite this brand-new age of the virtual enterprise, the fundamentals of business still apply. Getting your online business off the ground requires the same considerations as for any business venture.

_GET INSPIRED

Working out your concept is obviously a critical first step. Finding a new idea or a new spin on an old idea is the must-have ingredient to launch your online business. To test your ideas, start with some market research. Launch a search engine, type in some keywords and see what's out there in the space you're thinking of occupying. Look carefully at what's offered, how it's offered, pricing, competition, after-sales service — all the attributes you'll need to address once you take your business out into the worldwide marketplace.

If your ideas are 'to have an online business' and that's where they start and stop, you can use this method simply to see what's out there. Or try a site like **www.nichegeek.com** for inspiration. It provides examples of great ideas that have been turned into wildly successful online businesses. If this doesn't get your mind racing at the possibilities, then you should question your entrepreneurial spirit.

www.nichegeek.com offers a window to the world of successful online business ideas.

_PLAN TO SUCCEED

If your mind is swarming with ideas, it's time to get into the planning stage. A business plan is a vital first step in bringing your ideas to life and it should be a living document — something that will evolve and need constant improvement as you begin to implement your plan. There are many places to start when it comes to writing a business plan. You should check the web for examples, templates and ideas that will help form your creative energy into actions.

One site that's worth checking out is **www.awp.com.au**. Created by Australian Windows Publishing, this site has a great deal of free content aimed at helping small businesses get an online enterprise up and running. There's a free downloadable book, *The Internet Business Resource Kit* and links to sites in Australia and the US that provide business plan templates and other resources.

There are government agencies at both federal and state level that provide a broad range of tools on their web sites, including business plan templates. These sites provide further details on regulations that apply to various types of businesses. You must know about these or risk incurring penalties.

Boiling it down to basics, a good business plan should cover the following.

* **Product.** What is it you'll build/sell/provide that's your reason for being in business? Be detailed and clear about what the product or service is and does. What components come together to create it? How does a consumer use it? And so on. Leave no stone unturned.
* **Market.** Who is your target market? What do they do, where do they live and what other products do they buy? Profile the market carefully. This will give you a powerful tool when it comes to creating a marketing plan.
* **Competitors.** Who are the other providers of the same or similar products? Understand their offering, pricing and method of delivery. Find out everything there is to know about their business model so you can understand what kinds of advantages they have over you, or vice versa.
* **Risks.** There are usually many existing and potential risks that will impact a business. The key is to understand and separate them into those risks that can be easily managed and those that require contingency planning. The survival of your business and your investment of time and money will depend on careful risk assessment.
* **Marketing plan.** You should already have a clear idea of who you want to sell to through your market analysis, but the marketing plan will be more about how you're going to get your message out to them and entice them to buy.
* **Operational plan.** Whatever you project outwardly must be matched by procedures and systems to ensure that you can deliver on your own hype. The operational plan should specify processes for every business function and outline how these will be resourced and managed.
* **Personnel.** If you don't have the time or skills to cover all bases yourself, you'll have to consider employing staff. A personnel

www.e-businessguide.gov.au is a Federal Government-funded site that provides simple advice and templates to help get you started.

First steps

The following are sites with ideas and resources for getting your business started.

www.e-businessguide.gov.au
www.ipaustralia.gov.au
www.sbms.org.au
www.business.vic.gov.au
www.smallbiz.nsw.gov.au
www.business.qld.gov.au
www.development.tas.gov.au/business
www.smallbusiness.wa.gov.au
www.southaustralia.biz
www.business.act.gov.au
www.becnt.com.au

plan should identify the roles required in your business and the competencies needed to perform them. You can then use the plan to select staff. You should also give consideration to timing — it might be that once you reach a certain volume of sales or level of activity, you'll need to increase the headcount.

* **Budget.** With all of the above extensively mapped out, you'll be able to create a financial budget, modelling your upfront and ongoing costs and sales projection. Your budgeting should be conservative and even work on different scenarios, dealing with a number of different circumstances that could arise.

With your ideas structured into some sort of overview and action plan, you're ready to begin implementation.

_INSURANCE

Before you get too far down the road of implementation, it's important to focus on the key findings from your business plan that point to insurance needs. Having insurance is not only important to understanding costs, but it will ensure that should the worst happen, you'll have some protection for your business and personal assets.

Business insurance covers a range of risks and can be grouped into these categories:

* Property or assets insurance
* Public/product/professional liability insurance
* Employer liability (workers compensation) insurance

You may need to seek out cover in any or all of these areas — the business planning process should have uncovered most of the risks. If you're still unsure of what you'll need, speak with an insurance company or broker to work through a risk assessment.

Dealing with a broker can be a good option, as they're professionals who will work with a range of different insurance companies to select the best cover and cost to suit your needs. They will also act as advocate if you need to make a claim. To find a broker, check out the National Insurance Brokers Association at **www.niba.com.au**. There you'll find a search tool to help you find NIBA brokers by postcode.

To find an insurance broker, visit www.niba.com.au.

_REGISTERING YOUR BUSINESS

A very important step will be to properly register your business; in particular, any name or trademark you wish to trade with.

The Australian Business Register is the first port of call. You'll require an Australian Business Number (ABN) before getting too far into establishing your business. An ABN is a national reference used by businesses and consumers to confirm the identity of the operators of a business.

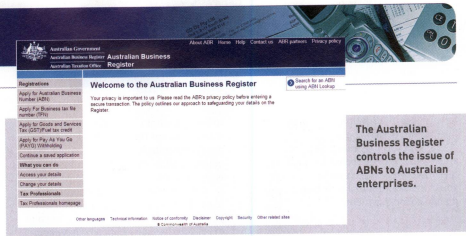
To register and obtain an ABN, visit **www.abr.gov.au**. From there you can fill in an online form, which will also activate a GST registration (if required) and other business compliance areas managed by the Australian Tax Office. An ABN will be issued by mail in two to four weeks, or you can conduct a business search on the same web site after completing the application and your ABN will normally appear there within 24 hours.

_WHAT'S IN A NAME?

Once you have an ABN, your plan may be to operate under a business name and obtain a domain so you can have a presence on the web. Business names are controlled by each state and territory in Australia, so you'll have to determine where your business will be based and register within that area. For a full list of state-based business registries, see the box 'Australian business registries' above.

To check if your desired name is already registered, you can refer to a single list of Australia-wide names, which is maintained by the Australian Securities and Investments Commission (ASIC) called the National Names Index. Visit **www.asic.gov.au** to search this database. A business name must be unique within the state it's being registered.

A trademark is different to a business name because it's used to distinguish the goods and services of a trader. A trademark provides the highest level of brand protection and therefore is superior to simply registering a business name. Registering a trademark can involve a series of fees, depending on what you're registering. It can cost several hundred dollars or more at a basic level, compared to business name registration, which is typically less than $100. Go to **www.ipaustralia.gov.au** to find more about trademarks.



The Australian Business Register controls the issue of ABNs to Australian enterprises.

Australian business registries

Here is a state-by-state list of business registries in Australia.

ACT	**www.ors.act.gov.au**
NSW	**www.fairtrading.nsw.gov.au**
NT	**http://nt.formcentral.net.au**
QLD	**www.fairtrading.qld.gov.au**
SA	**www.ocba.sa.gov.au**
TAS	**www.consumer.tas.gov.au**
VIC	**http://online.justice.vic.gov.au**
WA	**www.commerce.wa.gov.au**

_DOMAIN CONTROLLER

Obtaining a business name or trademark doesn't automatically give you the equivalent domain name, therefore you must also register a domain name with an accredited registrar. To register a domain name in the usual commercial registries (like .com.au or .net.au) you'll need an ABN and, depending on the name, a business name or trademark registration. An important consideration is choosing a domain registrar, as service and prices differ significantly. The important distinction is in what's offered for the price and what other services you'll require. Don't simply seek the cheapest provider — look for the right overall package.

If you need it, web hosting and design will be one of your major costs, so be on the lookout for providers that can deliver good value for money here. It's not essential that your domain registration, web host and web designer are one and the same, but depending on your level of skill and knowledge it could make sense to reduce the number of points of contact. And if you don't have extensive experience in these areas, a good place to start is with the domain registrars who also offer the

full package: registration, management, hosting and design.

So, with your basic registrations in hand and a web site under construction, there's one other important consideration before you can make your first sale: how do you plan to collect payment?

_MAKE THEM PAY

Most online businesses require secure, seamless and spontaneous purchasing options. Although other methods such as money order or electronic funds transfer from the customer's bank are viable, these methods don't inspire an efficient and easy shopping experience, which is the key to higher sales volume. Having an online merchant facility is a more immediate and less cumbersome way of getting paid.

A regular merchant agreement (like those run through an EFTPOS terminal in a retail outlet) doesn't extend to trading online. Given the different set of risks involved in obtaining credit card details over the internet, the banking sector has a separate registration process, which is available online. Most of the banks provide their own web solution, but will also interact with third-party gateways.

Deciding on a solution depends to a large extent on your customers. If they're not accustomed to purchasing over the internet or not based in Australia, then opting for one of the internationally known third-party gateways might make them feel more at ease. PayPal is one of the better-known options that's used widely — eBay liked it so much it bought the PayPal business! Your customer may have more comfort using a familiar method, and by association it gives you greater credibility. There are costs to set up a merchant solution, so shop around for a good deal.

_HIT OR MISS

Once you have payment options, it's time to bring in some customers. While the internet means the world is effectively your marketplace, the sheer volume of content online means that getting noticed is no easy task.

If you've chosen the right domain registrar, host and web designer, then you already have a team working for you to get your business noticed. They each play a role in making sure that anyone searching the web for content matching your business name and offering will get a hit. However, this doesn't guarantee that you're high on the list of search results.

Getting greater exposure could come in the form of buying space on search engines like Google or Yahoo! At **www.ineedhits.com.au**, you can purchase a package to devise and run a campaign on Google and/or Yahoo that aims to get your business higher on the list of hits.

Another method of getting your business noticed is to give it some exposure through a social networking site. Facebook has become a popular way to build awareness of businesses, connect with and grow a loyal customer base and draw attention to special events and new products. This type of viral marketing can be very successful, especially when you have a unique or novel offer that will be quickly shared.

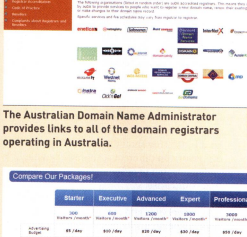
It's all about getting traffic to your site, and the ways in which this can be done will vary depending on your product and your imagination.

_THE WORLD GAME

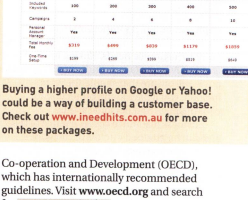
In building your online business offer and marketing it, you must consider the jurisdiction you'll be operating in. Simply by trading on the internet, your business has the potential to sell globally, which means you may have to consider rules that apply in foreign lands. The ACCC has a number of resources at **www.accc.gov.au**, or you could try the Organisation for Economic Co-operation and Development (OECD), which has internationally recommended guidelines. Visit **www.oecd.org** and search for **consumer protection**.

The top items covered by both Australian and international guidelines are:

* Disclose your contact details, including a physical street address for the business.
* Provide a secure online payment system and ensure privacy of personal information.
* Clearly state terms and conditions, including warranty and refund policies (which are mandatory in Australia).
* Advertising should be accurate and not be subject to fine print.
* Provide a reliable complaints handling procedure.



The Australian Domain Name Administrator provides links to all of the domain registrars operating in Australia.



Buying a higher profile on Google or Yahoo! could be a way of building a customer base. Check out **www.ineedhits.com.au** for more on these packages.

PayPal is a popular secure payment method — familiarity could give your customers more confidence.

Merchant facilities

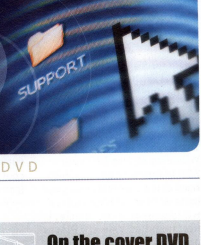
This is a list of third-party gateways connecting your web site and merchant facility.

Advam **www.advam.com**
Camtech **www.camtech.com.au**
Card Access Services **www.cardaccess.com.au**
CommSecure **www.commsecure.com.au**
Direct One **www.directone.com.au**
Direct Payment Solutions **www.paymentexpress.com**
eSec **www.esecpayments.com.au**
eWAY **www.eway.com.au**
PayFlow Pro/PayFlow Lite (VeriSign) **www.verisign.com.au**
PayPal **www.paypal.com.au**
SecurePay **www.securepay.com.au**

_OPEN FOR BUSINESS

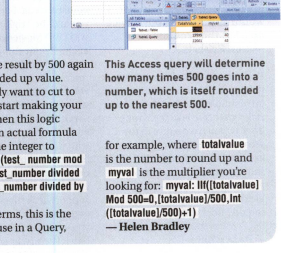
Although we haven't explored every aspect of business you may need to consider, you should now be well on your way. Probably the most important piece of advice we can give is to surround yourself with mentors and advisers who fill the gaps in your skills and knowledge, and who are positive. Running your own business is hard work and there will be times when you'll want to give up. Positive affirmation from people who know you and your capabilities can be the energy boost you need to stay on course.

HELP STATION



Your technical problems solved

On the cover DVD
You'll find DriveImage XML, Foxit Reader and Thunderbird on this month's cover disc.



OFFICE APPLICATIONS

Rounding up in Microsoft Access

I have a problem in Microsoft Access. I need to round a value up to the nearest 500 so that 22,000 stays the same, but 22,001 would become 22,500. I need to do this to then make a calculation that relies on a certain number of cents being paid per $500 dollars of value. I'm trying to do the rounding up in Access, but it just doesn't seem to be working.
— Max Hastings

The solution to your problem lies in the very handy MOD function. MOD is short for modulus and it calculates the remainder when one number is divided by another number. For example, if you divide 22,000 by 500 you get 0 as the remainder, but if you divide 22,001 by 500 you get a remainder of 1. When a number is divided by 500 and there's a remainder other than 0, we know that number needs to be rounded up. The other function similar to MOD that we need to use is INT, which gives the integer part of a number — we can use it to get the number of times one number can be divided into another number, discarding any remainder.

So, a formula with this underlying logic will do the work. If the **test_number MOD 500 equals 0** , then the number is a multiple of 500, so any calculation can be made on **test_number** itself. If not, find the INT when **test_number** is divided by 500 and add 1 before multiplying the result by 500 again to get the rounded up value.

If you simply want to cut to the chase and start making your calculations, then this logic converted to an actual formula will give you the integer to multiply by: **if (test_ number mod 500 equals 0, test_number divided by 500, INT(test_number divided by 500) + 1)** .

In Access terms, this is the expression to use in a Query, for example, where **totalvalue** is the number to round up and **myval** is the multiplier you're looking for: **myval: IIf([totalvalue] Mod 500=0,[totalvalue]/500,Int ([totalvalue]/500)+1)**
— Helen Bradley

This Access query will determine how many times 500 goes into a number, which is itself rounded up to the nearest 500.

OFFICE APPLICATIONS

Excel printing woes

When I click 'Print Preview' in Excel, the page breaks in my 19-page worksheet look fine. This also happens when I click 'Page Break Preview'. However, when I print, I end up with the first sheet of paper full of information and the second sheet of paper contains just one line. The third sheet is full and the fourth sheet has just one line from the workbook. I don't know how to fix this. I tried to set a print area and it still prints the same way. All other spreadsheets print fine. Can you help?
— Steve Cawley

The problem is that while your page breaks are breaking up your worksheet into page-sized chunks, your printer is unable to fit all this information on a single sheet, so it's printing over onto a second page and then honouring the page break by starting a new page where you asked it to.

There are two solutions I would try. First, make the top and bottom margins of the worksheet just a little bit larger. You can do this using the settings in the File —> 'Page Setup' —> Margins tab or I find it easier to do it in 'Print Preview'. In this case, click the Margins button to view them and drag on them to make them larger and the page itself smaller.

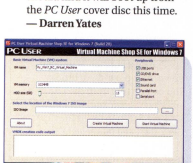
The other option is to scale down your page size a little. You can do this from the File —> 'Page Setup' options or by clicking Setup in 'Print Preview'. Click the Page tab, select the 'Adjust To' option and decrease it slightly. For example, if you're currently printing at 100%, change this to 95% to see if it works. Either of these solutions should have it printing correctly.
— Helen Bradley

WINDOWS

Virtual Windows 7

I'm having trouble getting the Windows 7 tryout from your September 2009 issue cover disc working using a virtual PC. My PC is running Windows XP Pro SP3 with 2GB of memory and a 500GB hard drive. I've watched your tutorial several times as well as reading the article. I first installed VMware Player and then Virtual Machine Shop, which I started up, selected the amount of system memory and hard drive space, and used the cover disc to install the ISO image. I created the Virtual Machine and a message came up that the image had loaded, but when I clicked the 'Start Virtual Machine' button, a message came up saying "No Boot Filename Received and Operating System Not Found". It would appear that Windows 7 is not loading from the cover disc. I would appreciate your advice on what the problem is.
— Don Roberts

This problem usually comes up if the system has two optical drives and either the September 2009 cover disc is in the wrong drive or you have a disc in the second drive. Try using the disc in the other drive and making sure the second drive has no disc inside. If you start the Virtual Machine again, you should find it will boot up from the *PC User* cover disc this time.
— Darren Yates



Virtual Machine Shop, *PC User*'s software for running Windows 7 in a virtual machine.

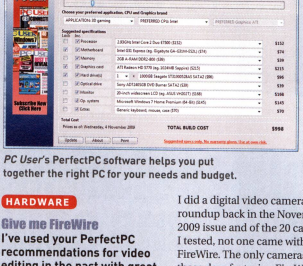
HARDWARE

Missing software and drivers

Since buying a new PC, I find I can't load the software from my Hitachi DZ/MV270E video camera. Is there any current software available I could use to transfer data from my camera to my PC?
— Vic Graham

My understanding is that Hitachi supplied an optional cable that you could use to connect your camera to your PC. You could then get the data from the camera to your PC and edit the movies or play them back from there. The PC kit that came with the camera included PowerDVD XP to play DVDs, which isn't compatible with Vista (and probably not with Windows 7, either). There are more recent releases of this software available, however, and you can get information about them at **http://tinyurl.com/yd5eeoa**. For video editing, the original software was DVD MovieFactory SE — again, it's not compatible with Vista, although you can find more information about newer versions of the software at **www.ulead.com/dmf/**.

On your behalf, I also contacted Hitachi support who were most helpful, considering the company no longer sells consumer electronics in Australia. The support desk suggested that, to the best of their knowledge, you could use Ulead DVD MovieFactory, at **www.ulead.com**, Ulead VideoStudio or CyberLink PowerProducer to edit your captured videos. They also suggest these programs should capture data from the DVD-RAM disc and finalised DVD-R content, too. They mentioned that if your PC has a Super Multi DVD drive, you can insert the DVD into your computer and capture it using Ulead DVD MovieFactory, rather than downloading it from the camera.
— Helen Bradley



***PC User*'s PerfectPC software helps you put together the right PC for your needs and budget.**

HARDWARE

Give me FireWire

I've used your PerfectPC recommendations for video editing in the past with great success. I'm now about to build a new video editing computer and was surprised and disappointed to find that your motherboard recommendation to go with a Core i5 750 processor was a Gigabyte GA-P55-UD3R. This motherboard doesn't have any FireWire ports for capturing video from my camera and would therefore be a waste of money for video work. Why do you recommend this and is there an alternative?
— Barry Fisher

I did a digital video camera roundup back in the November 2009 issue and of the 20 cameras I tested, not one came with FireWire. The only cameras these days featuring FireWire are now semi-pro, high-definition models that still use MiniDV tape. As for consumer models, since they're now all either hard drive or flash drive based, everything is USB. So in practice, FireWire is no longer a necessity when it comes to video editing. If you want FireWire, there is an alternative: the ASUS P7P55-M. It handles the Core i5 750 and comes with a single FireWire port, and sells for about $140 online. Use staticICE (**www.staticice.com.au**) for price comparison.
— Darren Yates

RIPPING & BURNING

Dodgy disc

I've been trying to copy my home movie DVDs using the technique you showed in the February issue (page 78), but I'm having trouble. These discs will play on my PC as well as my DVD player, but I've tried to rip them and after the process starts, it gets to about 6% and then displays 8+9%. When I look at the Output tab in Ripping & Burning Toolbox 2009, it comes up with stacks of messages, addresses and stuff like this: /CYGdrive/c/program files/pc ripper input/output error. error on sector 163012 /CYGdrive/c/program files/pc ripper input/output error. error on sector 163014 The above type of text kept scrolling for many pages with all sorts of other information and I had to take the disc out to stop it. I also couldn't get a screen grab, as the PC was too busy scrolling. Any ideas?
— Brendan Dalton

It looks like the problem is that your PC's DVD drive is having trouble reading the disc — that's what the "Error on sector 1630XX" messages mean. The reason for errors could be the

drive, the speed at which the disc is being ripped, or the disc itself maybe damaged in those particular sectors. If the drive can't physically read the disc correctly, there's not much the software can do.

The alternatives are to see if there are any visible scratches on the disc and clean them up the best you can, or possibly try another drive. I've had discs that rip in one drive but not another. At the moment, our Ripping & Burning Toolbox 2009 software doesn't have provision for changing the ripping speed. It could be that slowing down the ripping speed may allow the drive to get a better handle on those dodgy sectors. We'll look and see if we can update the program to add this feature in the near future.

— Darren Yates

WINDOWS

Australian spellcheck for Windows Mail

I recently installed Vista with Windows Mail on my new computer and have found that the spellchecker is rejecting my spelling, wanting instead to impose Americanised spelling on my emails. Microsoft has informed me that the only English spellchecker available for Windows Mail is US English. What are my reasonable options for an Australian English spellchecker, by way of substituting a non-Microsoft spellchecker or by changing my mail program, while retaining my present ISP as the provider of my mail service?

— Harry Pfeifer

Since you've just installed Vista, you're probably used to Outlook Express, Windows Mail's predecessor. Although Outlook Express didn't come with a spellchecker, it could use the one provided with early versions of Office, and the Office spellchecker included an option for Australian English. Starting with Vista, Outlook Express was replaced with Windows Mail, which does have its own spellchecker, but only for US English, French, German and Spanish. As far as I can determine, there's no Australian English spellchecker available for Windows Mail, so you'll need to abandon that program if you want Australian spellchecking.

It shouldn't matter to your ISP which email program you're using, and I believe the simplest solution for you is to change to freeware Mozilla Thunderbird (from **http://tinyurl.com/TBird301** or this month's cover disc). You can install either the English (US) or English (UK) version and following that, install the English (Australian) add-on dictionary from **http://tinyurl.com/TBird-Oz**. If you want to stick with a Microsoft email program, you could go for Microsoft Windows Live Mail, freeware from **http://download.live.com/wlmail**. Although the default English is US, UK English is easy to include as an option because it's built into the US dictionary. You can also include Australian English, but that's more difficult. You'll find the details for adding both dictionaries at **http://tinyurl.com/WLM-Oz**.

— Link Harris

WINDOWS

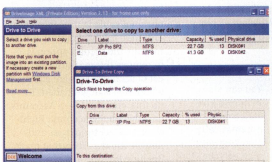
DriveImage XML

Does the DriveImage XML software described in the August 2009 issue of *PC User* back up the applications on the hard disk, or just the data? I'd like to know in case I can use this to protect the Toshiba software on my TE2300, which uses Windows XP.

— Aren Harris

As explained in the feature 'Modernise XP' on page 46 of the August 2009 issue, DriveImage XML (free for private use from **www.runtime.org/driveimage-xml.htm** and this month's cover disc) is primarily a drive-imaging program. This means it will clone a byte-for-byte copy of your hard disk and everything on it. From the clone copy you can restore your hard disk or even a different one to exactly the way the original disk was at the time you made the image copy. Hence it will restore not only data files, but the registry and all of the installed software. Alternatively, DriveImage XML lets you back up individual files or sets of files and restore selected files either from the clone copy or discrete backup. The program is designed to take advantage of Microsoft Shadow Copy, available in Windows Server 2003/XP/Vista/7, which lets you back up parts of a drive that contain locked or open files.

— Link Harris



DriveImage XML lets you create an image of one partition on another one.

Distributors

Synnex Australia 1300 100 100
www.synnex.com.au
Ingram Micro Australia 1300 651 124
www.ingrammicro.com.au

Seagate

OFFICE APPLICATIONS

Aligning data in Excel

In the January issue ('Align numbers in a table', page 72), you gave a solution for tabbing and aligning data. I'm using Microsoft Office Home and Student 2007 with Excel 2007. When I bring up the Ruler function in 'Page Layout', there's no icon for tab position. Neither can I tab across a cell using Ctrl-Tab. Is this a problem in Excel 2007 or is it a control that needs to be activated? — Tom Newsham

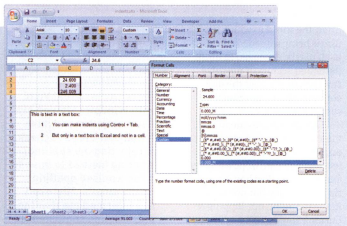
The instructions you're referring to relate to tables in Microsoft Word and unfortunately, the same commands don't work in Excel. To align text in cells in Excel, you need to use the Left, Center and Right justify buttons on the Home tab of the Ribbon. To indent the contents of a cell from the left margin, click the 'Increase Indent' button on the Home tab in the Alignment area.

To align numbers so the decimal points are all lined up neatly, format them using one of the number formats, such as Number, Accounting, Currency and so on. Make sure that the numbers are all padded out to the same number of decimal places. You can do this by selecting all the values and then clicking the 'Increase Decimal' button.

Should you decide that you want your numbers to be inset a little from the right-hand margin of the cell, first format the cells the way you want them to look and then select the cells, right-click and choose 'Format Cells'. Switch to Custom format and you'll find that the current custom format reads exactly the way you want the cell to look, except for the extra spacing. So, in the Type box after all the code, press Shift-(-) to add an underscore character, then type **M** and click OK. What this does is push the number in from the right margin of the cell an amount equivalent to the width of an upper-case M, which is one of the largest characters in most fonts. The underscore character simply tells Excel to use the character M as a space measurement and not as a letter.

There are no tab settings appropriate for working with cells in Excel and the only place you can use them is in a text box. In this case, pressing Ctrl-Tab will move you to the next available tab stop, allowing you to enter text in a text box neatly.

— Helen Bradley

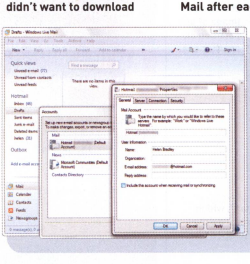


The only tabs that are available in Excel are those you use inside a text box.

OFFICE APPLICATIONS

Controlling Windows Live Mail

I've just upgraded my PC from Windows Vista to Windows 7 and have had to replace Windows Mail with Windows Live Mail. I always check my email before downloading it with Mailwasher. I could delete or bounce any mail that I didn't want to download and then click on 'Process Mail' to transfer control to Windows Mail, where I would download my messages. In Windows Live Mail, if I have the program open, mail continues to download, bypassing Mailwasher. I don't want this to happen. So far I haven't found a solution in the Options. I could close Windows Live Mail after each use, but this is inconvenient. — Margaret Goldman



You can stop Windows Live Mail from automatically checking your mail so your spam filter can do its work first.

There are a couple of things you can try. The first is to stop the program from automatically checking for new email messages unless you do it. Go to Tools —> Options —> General tab and disable the 'Check for new messages every:' checkbox.

If you already have this option disabled and if Windows Live Mail is ignoring this, as it may do, the second option is to remove this account from the list of accounts that are checked when mail is downloaded. To do this, click Tools —> Accounts and choose the account. Right-click it, select Properties and disable the checkbox that reads: 'Include this account when receiving mail or synchronizing'. Then the account won't be checked for email messages unless you do so manually. This will allow you to do your spam management in Mailwasher and download your emails when you're ready to do so.

— Helen Bradley

RIPPING & BURNING

Play me

I created a slideshow that's now in My Documents and plays fine on my PC. I copied it to a USB drive so I could plug it into my TV and watch it there, but the TV just says: "No recorded files". It apparently needs .jpg and .mp3 files. I converted the original to flash video (.flv) using SUPER, as I couldn't see any other file type that seemed to fit, but that didn't work either. I tried RBT2009 video encoder, which took hours and lost the audio. How can I convert a 1.7GB .wmv file to JPEG and MP3 format? — Mike Watts

Sorry, but you might as well give up now. The problem is your TV only supports JPEG images and MP3 audio, and that's separately, not together in the same file. While many of the newer, higher-end TVs from Samsung and LG now support video playback via USB, there are plenty of others

(including yours by the sound of it) that don't, so there's really nothing you can do.

If you're serious about playing this file on your TV, you'll need a digital media player such as Western Digital's WD TV Live, which received our Product of the Year award in the February issue. You plug your USB flash drive into the WD TV Live and the WD TV Live into your telly.

— Darren Yates

WINDOWS

Can't open PDF sites

My computer has Vista Home Premium SP2 and I use IE8 for the net. Since I upgraded from Adobe Reader 7 to Adobe Reader 9.1, IE8 won't open web sites that are .pdf files. Instead, it gives the error "Empty Referrer — no referring page". I can open PDFs OK in Adobe Reader from the computer. What can I do to fix this?
— Terry Robinson

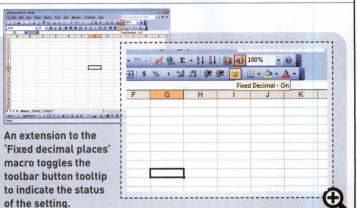
I can't duplicate these problems on my setup, so the best I can do is give the solutions that some claim have solved that problem.

1. Open Adobe Reader and click Edit —> Preferences —> Internet, untick 'Display PDF in browser' and click OK.
2. If step 1 doesn't work, close and reopen Adobe Reader, tick 'Display PDF in browser' again, click OK and see if this helps.
3. When you encounter a PDF link in IE, right-click it and select 'Open in New Window'.
4. If step 3 doesn't work, try it again after repeating 1 and 2.

You could also revert to your previous version of Reader (7.1.0) and then apply the 7.1.4 update from **http://tinyurl.com/AR-down**. Another alternative is to abandon Adobe Reader and install a different PDF reader, such as freeware Foxit from **http://tinyurl.com/FoxIt31** and this month's cover disc.

PC User would like to hear how other readers using Vista have solved this problem with IE8 and Adobe Reader 9.x.

— Link Harris



An extension to the 'Fixed decimal places' macro toggles the toolbar button tooltip to indicate the status of the setting.

OFFICE APPLICATIONS

Toggle toolbar button tooltips

You answered a question recently (*PC User* February, page 68) about configuring Excel to automatically convert numbers to a fixed number of decimal places by providing a macro, which I have attached to a toolbar button. I would now like the status of the decimal places setting to be displayed in the bubble when I move my mouse over the button. At the moment, the message reads 'Fixed Decimal 2', but I would like to add On and Off to indicate its status. My hunch is that this will require some additional lines of code such as an If…Then…Else statement somewhere towards the end of the existing code. Can you help?
— Paul Myers

This can certainly be done, but you might note that the setting is indicated on the Excel status bar, which reads Fixed if it's enabled. However, in the interests of doing this programmatically, let's pretend this indicator doesn't exist. The bubble you're referring to is the ToolTip text for the button and this can be controlled programmatically. Open up the Visual Basic Editor and add these lines to the code (I've given you the entire macro here, in case some readers missed out on the original solution).

```
Sub toggleNumberEntrySetting()
  Application.FixedDecimalPlaces
= 2
  Application.FixedDecimal = Not
(Application.FixedDecimal)
  If Application.FixedDecimal Then
    Application.CommandBars
("Formatting").Controls(17).
TooltipText = "Fixed Decimal 2 – On"
  Else
    Application.CommandBars
("Formatting").Controls(17).
TooltipText = "Toggle Fixed 2 – Off"
  End If
End Sub
```

In my solution I've assumed that the toolbar your button is attached to is called Formatting and the button is the 17th button on the toolbar. If this isn't the case (and that's unlikely), you must change the toolbar name to the toolbar you're using. You can determine this by right-clicking the toolbar and reading its name from the list.

Then, count the number of buttons going left to right across the toolbar — each button or drop-down list is one button and separators aren't counted. Change the number 17 to the number of your button on your toolbar.

The new code checks to see if 'Fixed Decimal' is enabled; if it is, the tooltip text is set to 'Fixed Decimal 2 – On'. If not, it's set to 'Fixed Decimal 2 – Off'. The code needs to check the status of the setting to ensure that the correct text appears on the button. Luckily this setting is sticky, so it remains consistent from one Excel session to the next. You could use similar code to toggle button tooltip text for any Excel button.

— Helen Bradley

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An improved UAC

Rose Vines takes a look at Windows 7's kinder, gentler UAC.

Vista users are already familiar with User Account Control (UAC). For XP users, it's a new experience.

If you've heard the horror stories about UAC from your hapless Vista chums, there's good news: Windows 7's version of UAC is far more restrained.

User accounts are a good thing. They offer privacy and a way to create different computing environments for users with different needs. They make it easy for beginners and experienced users to share the same computer. UAC helps prevent beginners from messing things up and helps stop experienced users from being riskily adventurous.

_XP'S PERMISSIVENESS

In Windows XP, every account created during the initial setup of the operating system is given administrator status and since you're encouraged to make an account for each user of the system, that leads to a herd of administrators running rampant. Under XP, administrators get to do anything they like; a powerful position indeed and one that hackers are happy to take advantage of. Any program you run gains all the privileges of the user that's currently logged on, so malicious code can have its way with the system.

_7'S RESTRAINT

Windows 7 doesn't work like this (nor does Vista). When you install Windows 7, you're asked to create a single user account. Although this is an administrator account, it doesn't have the unfettered administrator privileges offered by XP. On Windows 7, administrators are subject to certain controls and the operating system runs in a special mode called Admin Approval Mode (AAM). The only other type of account available in Windows 7 is a standard account.

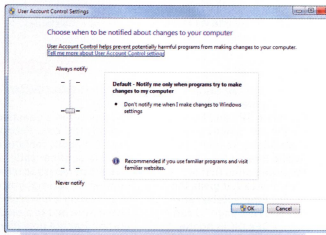
Both administrators and users with standard accounts running in the default AAM are generally able to work without hindrance. You can run applications, use Windows Update, change basic settings such as power options, add a printer or other hardware, and so on. It's only when you attempt other, riskier tasks, such as installing an application or configuring advanced firewall settings, that you'll need administrator privileges.

When you attempt to perform such a task, a UAC dialog box will appear, requiring consent before you can proceed. When a UAC dialog appears, it freezes your computer temporarily — you must respond to it before you can proceed.

If you're logged on as an administrator, the only consent needed is for you to click Yes. If you're logged on as a standard user, a different dialog box will appear, requiring you to supply an administrator password before you can continue. Microsoft calls this OTS (Over The Shoulder) Credentialing. The idea is that when you encounter such a dialog, you call your administrator over (whether that's a member of your family or a system administrator in your workplace), they type in their password and click Yes, and off you go. There are a couple of benefits to this:

* OTS Credentialing renders standard accounts perfect for children and for organisations wanting to lock down their PCs and prevent employees from making changes that could cause problems.
* AAM reduces the need for most home users to use a standard account. Even when you're logged on as an administrator, programs run in what's known as Least Privilege mode, and you must actively give your consent before a program can run with elevated privileges. So even if you use an administrator account, your computer is well protected. Contrast this with Windows XP, where if you're logged on as an administrator, all programs, including malware, will run with administrator privileges and hence have free reign of the system.

Chances are you've probably been using an administrator account on XP without realising the risks. Now, with Windows 7 you can use an administrator account and know that UAC will step in to help prevent you from doing something dangerous.



Windows 7 lets you adjust User Account Control's aggressiveness.

_TOP TIP

Throttle back UAC

Try to keep UAC at the highest setting you can. It provides real protection that you shouldn't ditch lightly. On the other hand, if you're setting up Windows on a new computer and installing loads of applications and new drivers, consider pulling the UAC slider way down so that you can proceed without too many interruptions. Once you've made all your changes, push the slider back up again.

_ADJUSTING UAC

To adjust your computer's UAC settings:

1. Make sure you're using an administrator's account in Windows.
2. Click Start, type `UAC` in the 'Start search' box and click 'Change User Account Control settings' in the results list.
3. You'll be presented with a UAC prompt. Click Yes to continue.
4. Use the slider control to adjust the setting to a level that you're comfortable with, click OK and then respond to the second UAC prompt.

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Zoom in to your desktop

Link Harris explains how ZoomIt can improve your PC presentations.

If you ever need to explain what's happening on your PC's monitor, whether it's in a one-on-one situation with a friend or in front of a packed auditorium, ZoomIt can help you get across those curly concepts. Freeware from **http://tinyurl.com/ZoomIt41**, ZoomIt lets you zoom in on a particular area of interest on your monitor's display. Once zoomed, you can draw freeform, lines or shapes and type text. You can also draw and type without zooming.

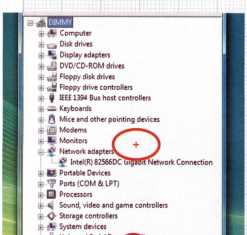
For Windows Vista or 7 you also get LiveZoom, a feature that lets you use your keyboard and mouse on the zoomed display just as you normally would. Finally, for extended presentations, you can make the entire screen blank except for a digital clock that counts down to break time. You can control all of these features quickly using customisable keyboard shortcuts.

The first time you start ZoomIt, the program opens with the Options screen, which you can retrieve later by right-clicking the ZoomIt icon in the notification area. It's worth spending some time on the Options screen because most of the details of each mode are explained on its tab. Here are the highlights.

* **Zoom.** Press Ctrl-1 to enter Zoom mode and either Esc or right-click to return to the normal display. While in Zoom mode, you can adjust the amount of zoom with either the mouse wheel or the up and down arrow keys, but the only way to move the display around is by moving your mouse. Left-clicking the mouse will freeze the display and move to Draw mode, from which you can return to Zoom with a right-click.
* **Draw.** Although you can enter Draw mode from Zoom mode, you can also bypass Zoom mode completely by pressing Ctrl-2. Draw mode is indicated by a cross at the cursor position and you can centre this by pressing space bar. To alter the width of the line, press and hold the left Ctrl key while moving either the mouse wheel or the up and down arrow keys. Although the default line colour is red, you can change it by pressing: B (blue), G (green), O (orange), P (pink), R (red) or Y (yellow). There are also keys to press for a blank screen (W for white and K for black), which can be useful when you need a sketchpad. Press and hold the following keys while drawing to force a particular shape: Shift (straight line), Ctrl (rectangle), Tab (ellipse), Shift-Ctrl (arrow). Finally, you can undo the last drawing action with Ctrl-Z or clear all of your drawing efforts by pressing E.
* **Type.** The only way to enter Type mode is by pressing T from Draw mode. The colour of your typing will be the same as the colour you chose in Draw mode. Although you can set the default font from Options —> Type —> 'Set Font' button, you must set the size of the text by adjusting the height of the vertical line in Type mode by using either the mouse wheel or the up and down arrow keys.
* **Break.** To start the timer, either press Ctrl-3 or right-click the ZoomIt icon and select 'Break Timer'. You can adjust the maximum time either from the Break tab or from the Timer display using the mouse wheel or the up and down arrow keys. With the timer running, you can press Alt-Tab to move to open applications, but to return to the timer display you need to left-click the ZoomIt icon. Although the timer uses the same font as in Type, you can change the colour of the display using the same keys that control the colour in Draw.

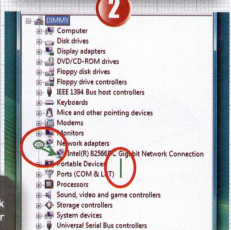
ZoomIt is frequently updated, so be sure to check the web site for the latest version.

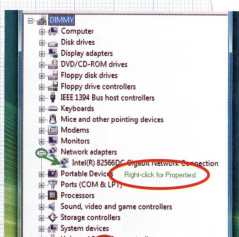
stepbystep PUT ZOOMIT TO WORK



Press Ctrl-1 to enter Zoom mode and adjust the amount of zoom and the position of the image. Click the left mouse button to freeze the image and enter Draw mode, which is indicated by a coloured cross.

Use keyboard shortcuts to customise the colour and select the other drawing features you want. When you have finished drawing, press T for Text mode.





Text mode is indicated by a vertical line. Adjust its length with the mouse wheel to set the size of the text before you start typing. When you've finished typing, press Esc to return to Draw mode and Esc again to return to the normal display.

Set-top boxes as PVRs

Darren Yates continues his look at new low-cost set-top boxes that double as personal video recorders.

With the Australian Government beginning its analogue TV shutdown this year, the demand for digital set-top boxes (STBs) should increase. If you're in the market for an STB, make sure you consider one of the new breed that double as a personal video recorder (PVR) by just adding a USB flash drive or hard drive. Not all of these PVR-capable STBs are the same, but what is similar is how they store the captured video.

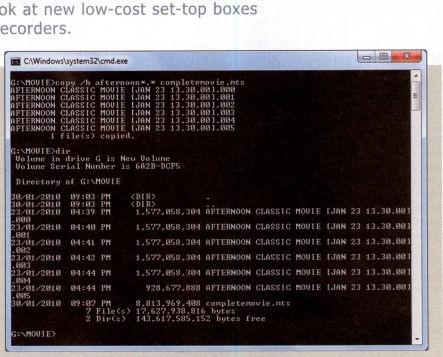
_MPEG-TS

As I mentioned last month (see page 69), digital video is broadcast in what's called MPEG-TS (MPEG-Transport Stream) format. Unlike the old VCR, which has to do a lot of work to capture the old analogue signal and get it onto tape, PVR-capable STBs just have to read the digital data stream and store it. The beauty of this is that there's no degradation of video quality because they're storing the original digital signal. The only problem occurs when there's insufficient signal level to capture the digital data, although that's a whole different issue that can be generally corrected in most regions by either an improved antenna or antenna cabling. It also means the cheaper STBs capture the same video quality as the most expensive models because they're all just capturing the broadcast data and storing it.

The big question is what do you do with the data stream once you've got it on your USB flash drive or hard drive? Most of these STBs rely on FAT32 formatting of the drives, so they can't create files of greater than 4GB and therefore split them into chunks. Some STBs use a 4GB chunk size, others 1.5GB — it all depends on the STB. In any case, having videos split into multiple files isn't useful. Thankfully, the MPEG-TS file structure makes it very simple to put them back together again. All of the important information about the file chunk is stored in the chunk itself, so all you need to do is join the chunks back up into a single file and it will play perfectly.

_DOS COPY

You'll probably laugh, but the simple way to do this is to use the good old DOS prompt and the `copy` command: `copy /b videochunk.001+videochunk.002+videochunk.003 completevideo.mts`. Basically, the above line tells the `copy` command to join these three videochunk files into a single file and call it completevideo.mts.



You can join multiple file chunks with one easy command.

An even easier option is the following: `copy /b videochunk.* completevideo.mts`. This basically tells it to join all files with the name videochunk and various extensions into the single file completevideo.mts, and the `copy` command is smart enough to know to add files in numeric order. And just by sheer coincidence, almost all STBs give video capture chunks the same name and a numeric extension, either in the filename or in the file extension for each chunk; for example, .001, .002, .003 and so on.

If you have the TEAC HDVR845, however, you'll find that it names the first file with the extension .trp with the following files .001, .002, .003 and so on. All you need to do is rename the extension of that first file to .000 and run the second of the above `copy` commands, and you'll end up with a single file at the end. The `/b` tells the `copy` command to copy these as straight binary files and not as text files.

_MPEG-TS PLAYBACK

The one drawback — and it's only a minor one — of MPEG-TS-based video files is that Windows Media Player doesn't know what to do with them. The alternative is to play them with something else, such as Media Player Classic — Home Cinema (MPCHC) and ffdshow. MPCHC is an updated version of Media Player Classic, the hotted-up version of Microsoft's old Windows Media Player, while ffdshow is the do-everything all-in-one codec pack. Install both of these onto your PC (Windows XP and up) and you should have no trouble playing back the single .mts file you created with the `copy` command.

_STORAGE REQUIREMENTS

With a mixture of high definition (HD) and standard definition (SD) STBs available, it's a good idea to keep in mind the average requirements of an hour's worth of video from each source in terms of storage needed. The typical figure is 2.5GB per hour for SD and up to 9GB per hour for HD video. Basically, that means an 8GB flash drive is generally good for three hours or so of SD video, while you'll need a 32GB flash drive to get the same runtime for HD video. The main difference between these STBs and traditional fixed-drive PVRs is the fact you can easily and quickly transfer the video from your flash drive to your PC's hard drive and be ready to record something else.

Fakespotting P2P files

Nathan Taylor explains how to spot and avoid fake files on peer-to-peer networks.

One of the most important talents you can have as a peer-to-peer (P2P) user is the ability to spot fakes. Fake files are present in all P2P networks; some are merely annoying wastes of bandwidth and download quota, while others can be downright malicious, installing viruses on your system or leading you to unsafe web sites. This month, we'll take a look at some simple tips to avoid getting stung.

These methods aren't foolproof, but they're simple and should save you a lot of headaches and wasted bandwidth in the long run without too much effort on your part.

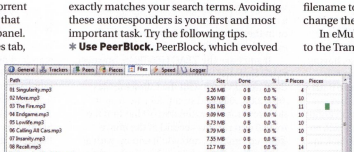
_BITTORRENT

In BitTorrent, fakes are commonly posted on popular BitTorrent web sites. Fortunately, you can often find out whether a file is fake before you even start the download. Try these tips:

* **Read the comments.** Most BitTorrent web sites have comment sections for individual torrents. Always read the comments before downloading a file. If the torrent is a fake, there's a pretty good chance that somebody else has already noticed it and posted a comment to that effect. Note that it may take a little time after a torrent is posted before comments appear. Be patient.
* **Check the contents.** You should always check what it is you're downloading as soon as you start the torrent. In µTorrent, left-click on the name of the new torrent in the top panel. This will bring up that torrent's information in the lower panel. In the lower panel, click on the Files tab, which will give you a list of all the files in the torrent.

You should first check whether the files contained in the torrent are correct and whether they're the expected size. If a video file is only a few KB, for example, it's a fake. Then check for archives, such as .zip and .rar. These can be password-protected by the torrent uploader and can be a trap. It's a common tactic, for example, to upload a desirable torrent with a password-protected .rar file in it. Accompanying that will be a text file, pointing you to a web site where you can get the password to open it. Avoid these — they'll very often lead to malware sites.

* **Download a sample.** If the torrent contains multiple files, you can just download one of them to see if it's legit before you commit to downloading the whole thing. In the Files list of the torrent, select all but one of the files contained in the torrent. You can use Shift-click or Ctrl-click to do this. Then right-click one of the highlighted files and select 'Don't Download'. That way, µTorrent will only download the one file. When that file is 100%, you can try to view or play it. If it works, you can go back to µTorrent, select the rest of the files and right-click to set their priority to Normal to start them downloading again.



Viewing the contents of a torrent in µTorrent.

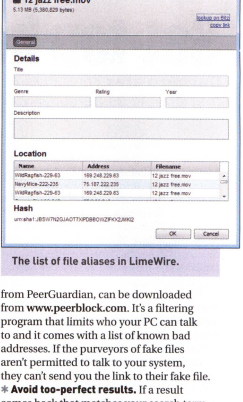
_eMULE & LIMEWIRE

eMule and LimeWire (and their clones) work on a different principle to BitTorrent and fakes are very common on both networks. When you do a search in one of these applications, your search terms are spread across the network, passing from one computer to another. In essence, your PC is asking all the others: "have you got a file that matches this description?" There are remote systems that are configured to automatically respond to your query with a "yeah, sure, we've got that file" and offer up a fake file that exactly matches your search terms. Avoiding these autoresponders is your first and most important task. Try the following tips.

* **Use PeerBlock.** PeerBlock, which evolved from PeerGuardian, can be downloaded from **www.peerblock.com**. It's a filtering program that limits who your PC can talk to and it comes with a list of known bad addresses. If the purveyors of fake files aren't permitted to talk to your system, they can't send you the link to their fake file.
* **Avoid too-perfect results.** If a result comes back that matches your search term exactly, right down to the case, it's probably a fake. For example, if you search for `epic fuel singularity` and a response comes back with `epic fuel singularity.rar`, there's a good chance it's fake.
* **Check alternate names.** eMule and LimeWire don't group results based on filenames — they group results based on what's called a hash, a unique mathematical identifier. That way, files don't need to have the exact name as each other to be grouped. You can use this to your advantage. An autoresponder sends out the same fake file under a whole bunch of different filenames (it matches the filename to the search term, but doesn't change the contents of the file itself).

In eMule, you can check this by going to the Transfers tab and right-clicking on a currently downloading file. Select Details and a new window will pop up. Click the Name tab and this will show you all the different aliases this file has on the network. If it has a wide variety of weird aliases, it's probably a fake.

In LimeWire, the same effect can be achieved by clicking on the 'i' button to the right of any search results with multiple sources. An information window will pop up and under Location, it will list the usernames and alternate filenames of the selected file.



The list of file aliases in LimeWire.

Snappy network shortcut

You can get instant access to Network Connections, as **Link Harris** explains.

Windows' Network Connections lists all of the different types of network connections to your PC. It's there you can check the status of each connection, including its speed, the time connected and the data transmitted and received. You can also access and tweak the properties of the connection, including its TCP/IP settings, from Network Connections. Unfortunately, it's not the easiest place to find in XP and Vista is worse, with Windows 7 somewhere in between.

As with most Windows features, there are several ways to open Network Connections.

* In XP, the easiest way is to click Start, right-click 'My Network Places' and select Properties. Alternatively, click Start —> 'Control Panel' —> 'Network and Internet Connections' —> 'Network Connections'.
* In Vista, there's not really an easy path to Network Connections. One option is to click Start, right-click Network and select Properties and click 'Manage network connections' in the Tasks list at the left.

Alternatively, click Start —> 'Control Panel' —> 'Network and Internet' —> 'Network and Sharing Center'. Then click 'Manage network connections' in the Tasks list at the left.

* Windows 7 dishes up similar unintuitive long ways round, but does offer the option of typing **Network Connections** into the 'Start Search' box.

If you frequently work with Network Connections in any of these versions of Windows, you'll want a quicker way to get there than Windows offers. A shortcut, as illustrated in the step-by-step guide below, is one simple solution. You can either double-click the icon or drag it to the quick launch bar for one-click access. If you prefer using a keyboard shortcut, you can assign one from the 'Shortcut key' field shown in step 3. However, there are a few points to keep in mind when assigning a shortcut.

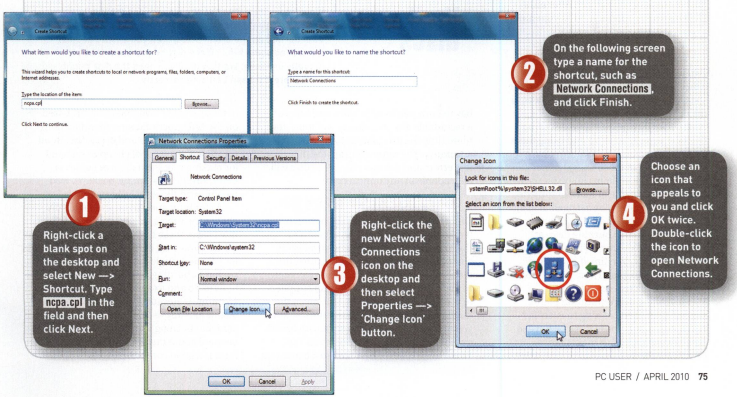
* A keyboard shortcut must comprise a single character (letter, number or symbol), plus at least two of the following keys: Ctrl, Alt and Shift.
* When entering the shortcut in the field, press and hold two of the three (Ctrl, Alt or Shift) before typing the character.
* If the word None appears in the field after you finish typing, this means you have selected a forbidden character, such as Delete or the spacebar.
* A Windows keyboard shortcut won't work if it's the same as the shortcut for an application that's currently open.

_TOP TIP

Keyboard shortcut

The default Windows keyboard shortcut begins with Ctrl-Alt. If that's what you want to use for your shortcut, simply type the character you want to add to it into the 'Shortcut key' field and Windows will automatically include the Ctrl-Alt. For example, typing N generates the shortcut Ctrl-Alt-N.

stepbystep NETWORKING CONNECTIONS IN VISTA



Improve your burn quality

Darren Yates looks at how to ensure your DVDs and CDs last the distance.

Given how cheap bulk storage has become, for some, optical discs have passed their use-by date. However, CDs and DVDs are still the easiest way to create stable backups, and copies of home movies and music CDs.

In the last few months, we've been looking at the idea of backups and really, if you only have one copy of something, you're just asking for trouble. That's why I've been recommending you think about multiple backups on multiple storage device technologies. In some ways, it's a bit like investment advice that says you should diversify your investments — spread your data around so that regardless of the technology, you'll always have a copy at hand. It's not all that useful to have all your backups on DVD if you only have one DVD drive. If it packs it in, you've got no (immediate) access to any of it until you go and buy another DVD drive.

The other thing you don't hear enough about is how to make sure those DVDs are the best quality you can get. After all, a DVD backup is only as good as your ability to read the data back off it.

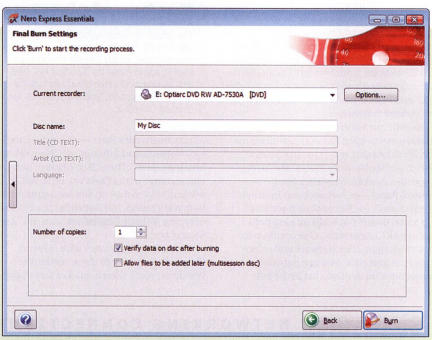
_DISC & BURN QUALITY

Two things affect the quality of data on a disc: the quality of the disc itself and the speed at which you burned the data onto the disc in the first place.

If you're buying no-name discs from the local two-dollar shop and using them as backups, I'd be seriously rethinking your strategy. Some of those cheapie discs can be good, but some of them can be pretty awful, so it's a bit of a game of Russian roulette.

The other issue is burn speed. Because we're all in a hurry, most disc burning software defaults to burning discs at maximum speed. That's all well and good for speed — it's even fine if you're just making rough copies. However, it's a bad move if you're creating backups.

Most of the disc replication plants suggest that when creating masters for mass production, those discs be burned at the slowest speed. It makes sense. Given that the laser in your optical drive has to burn pits into the chemical layer of a recordable disc, the slower you burn, the more time the drive has to burn those pits accurately. The more accurate the pits, the less errors and the more likely the disc will be readable in any optical drive.



Verify your discs

If you're serious about your backups, use the Verify option in your CD software to check the integrity of the data burned on the disc. Failing that, you should at least try to read some files off the disc so you know they're actually on there. Waiting until you need the disc might be too late if it hasn't burned correctly.

_OPTIMUM SETTINGS

Unfortunately, the state of the optical disc market is such that you can't guarantee the name on the outer plastic cover is the company that actually manufactured the discs. It's not uncommon to see even some of the big-name brands use other suppliers to manufacture their discs. Still, given the media testing we've done over the last few years, we recommend you stick with brand names such as Verbatim, Sony and TDK. These brands have been the most consistent in terms of their own manufacture, based on the MID (manufacturer identification) codes built into each and every disc. By all means, keep a stack of cheapies on hand for making quick test discs or copies of unimportant files, but for backups, we'd recommend those three brands.

As for burn speed, you should ideally choose the drive's slowest speed, which in most cases these days appears to be 4x. While the data rates are quite different, burn speeds for CDs and single-layer DVDs are arranged so that 1x burning takes approximately an hour to do and 4x speed burns take around 15 minutes. Because of changes to burning techniques above 4x, that rule doesn't apply at higher burning speeds. Backups should be more about quality than speed, so a 4x burn is a good compromise.

Fixing YouTube videos

Are some of your YouTube videos displayed incorrectly? **Philip Moore** can help.

On the cover DVD
You'll find the video version of this tutorial on this month's cover disc.

Last month we looked at pixel aspect ratios and the disparity between non-square video pixels and square computer/web pixels. This month let's take a look at how this affects older videos and what we can do to fix them.

_THE PROBLEM

Back when YouTube only offered a 4:3 viewer, adding widescreen (16:9) content was a problem. It would often display videos as vertically stretched. This was because the rectangular pixels of the video were being displayed as square. The best way around this at the time was to render your video as letterboxed in a 4:3 clip. You would lose resolution, but at least it displayed correctly.

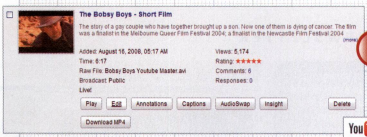
Then when YouTube introduced its widescreen display, along with support for high-definition resolutions, the old clips appeared surrounded by a black box. Even some footage that was 4:3 to begin with displayed incorrectly because it still used non-square pixels.

_MAKING THE FIX

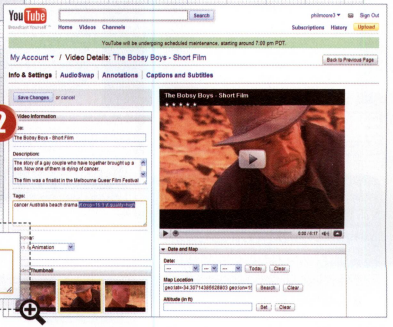
One way to take advantage of the 16:9 widescreen display in YouTube is to simply re-render your videos as true widescreen clips and upload them once again. This will give you a better-quality image, but it will be treated as a new upload. You can't simply update the vision for your existing clip, retaining all the comments, hits and other details.

YouTube, like most online video sites and media players, prefers and expects video to be square pixel and progressive scan. However, YouTube has at least now given us a way to deal with non-square pixels directly — up to a point — using tags for your video. There are four tags offered that will scale (crop) or stretch your video to make the most of the widescreen viewer. You can apply these to any of your older YouTube videos and the results will appear instantly. It's also worth using the Quality tag to ensure that the best resolution available on the site is being shown.

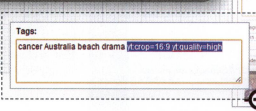
stepbystep FIX YOUR YOUTUBE CLIPS WITH TAGS



1 To fix a previously uploaded clip, log into your YouTube account and display the 'My Videos' page. Select the video you want to adjust and click the Edit button.



2 Depending on how you'd like to format your video, type one of the following tags into the Tags section. Tag: yt:crop=16:9 zooms in on the 16:9 area and removes letterboxing. Tag: yt:stretch=16:9 fixes anamorphic content by scaling to 16:9. Tag: yt:stretch=4:3 fixes 720 x 480 content that's the wrong aspect ratio by scaling to 4:3, and Tag: yt:quality=high defaults to a high-quality stream, depending on availability. In our example, we have a film that was 16:9 and letterboxed into a 4:3 clip. To better display this in the new YouTube, we added crop=16:9 and quality=high tags. Note that if you use either of the stretch tags, these assume a pixel aspect ratio that may not suit PAL footage. Rendering with square pixels is the safest option.



Creating HTML newsletters

Helen Bradley explains how to create an HTML newsletter in Dreamweaver.

On the cover DVD
You'll find the video version of this tutorial on this month's cover disc.

In Dreamweaver, all the skills you've acquired from creating web pages can be used to create email newsletters to send to your web site subscribers. However, some of the techniques won't work for newsletters, so we'll explain the best way to go about it.

_EMAIL NEWSLETTERS

The first thing to appreciate about email newsletters is that they won't be displayed in a sophisticated web browser; instead, they'll be rendered by the recipient's email software. This might be a web-based solution, Outlook, Outlook Express or one of many other email clients. Because these programs aren't fully functional web browsers, you need to take a conservative approach to designing your email and the techniques you use to create it.

Specifically, this means you shouldn't use any fancy or cutting-edge technologies like Flash movies, HTML framesets, JavaScript or complex table designs. However, you can use tables as a layout tool — these work well in newsletters. Take care when using CSS and never use an external style sheet file. CSS styles that may work are simple inline styles placed in the page code, or styles based on declarations in the body of the page. Unlike regular web pages, don't place your style declarations in the document head.

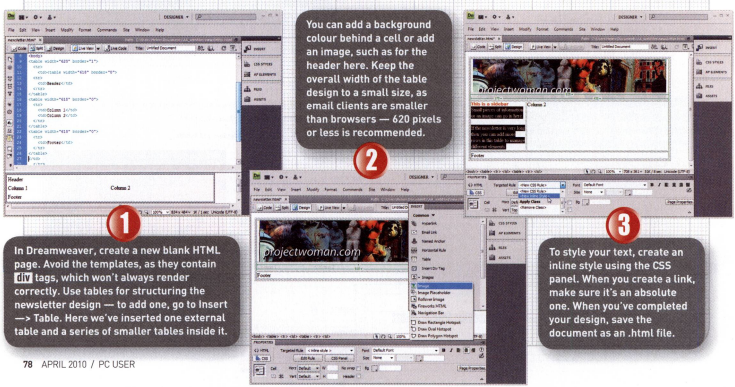
Even though you're limited to some fairly basic HTML, it's still recommended that you create your newsletters as HTML documents rather than delivering them as PDF documents, for example. To ensure your emails are opened and read, you should limit the number of steps between your recipient receiving your email newsletter and them reading it. If they open your email and can immediately read its contents, this is better than requiring them to click to open a web page or a .pdf file.

_HTML SPECIFICS

All links in an email newsletter should be absolute paths to the locations you're linking to, which means you must include the full URL including the **http://** portion. Do this for links to pages and images that will be hosted on your web site or elsewhere. Never place important content in images because some email software won't display images, so your reader may never see this information.

If you plan to upload your HTML newsletter to a web-based email service, save it from Dreamweaver as an HTML document and upload it into your email service. You may then need to edit your links to include link-tracking code, if you track when someone opens and reads an email. In software such as Outlook, go to Insert —> 'Attach File', select your HTML document and from the Insert drop-down list, choose 'Insert as text'.

stepbystep CREATE AN HTML NEWSLETTER



Show off your photos

Helen Bradley explains how to create a triptych in Photoshop to showcase your images.

On the cover DVD
You'll find the video version of this tutorial on this month's cover disc.

A triptych is a series of three related images all framed together. It's a fun project to create in Photoshop with a series of your favourite photos. We'll show you how to create both a vertical and a horizontal triptych.

Start by selecting the images to use. You want to use images that relate to each other — they can be colour or black-and-white, but it's best not to mix the two. Open the first image and crop it to your desired size. You'll need images that are about three times wider than they are tall or vice versa. It's best to crop all your images to the right size before you begin, as this speeds up the process of assembling them.

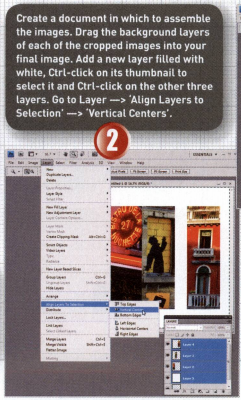
To crop an image to 900 x 300, select the Crop tool and on the 'Tool Options' bar, type **900px** in the Width box, **300px** in the Height box, **300** in the Resolution box and set it to 'pixels/inch'. Drag the crop rectangle over the portion of the image you want to use and press Enter. Repeat with the other three images so you have three images on the screen that are all exactly the same size.

Create a new image for your final project. If your images are 900 x 300 pixels, add an extra 200 to the width and around 500 to the combined height of the images, so you have an extra 100 pixels on the left, top and right border, some space in between the images and additional space at the bottom. To create the file, go to File —> New and type the width and height in pixels. Set the background to Transparent, the 'Color Mode' to 'RGB Color', the Resolution to 300 pixels per inch (to match the resolution of your cropped images) and click OK. Display the Layers palette and drag the background layer from each of the three images into the final project image.

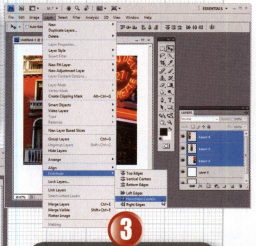
Drag the layers into roughly the position you want them to be in. Add a new layer (Layer —> New —> Layer), fill it with white and drag it below the three images. Ctrl-click on the layer thumbnail for the white filled layer to select its contents. Ctrl-click on the other three layers to select them and go to Layer —> 'Align Layers to Selection' —> 'Horizontal Centers' to centre the images. Drag the top and bottom images into position, holding the Shift key to constrain their movement. Select all three image layers and click Layer —> Distribute —> 'Vertical Centers' to space them evenly.

stepbystep CREATE A VERTICAL TRIPTYCH

1 Creating a vertical triptych is a similar process to creating one with horizontal panels. Select a series of images that will look good when cropped vertically — they need to have interesting detail along a vertical line. Crop each of them to exactly the same size.



2 Create a document in which to assemble the images. Drag the background layers of each of the cropped images into your final image. Add a new layer filled with white, Ctrl-click on its thumbnail to select it and Ctrl-click on the other three layers. Go to Layer —> 'Align Layers to Selection' —> 'Vertical Centers'.



3 Drag the leftmost image to where you want it to appear and drag the rightmost image into position. Select all three image layers and click Layer —> Distribute —> 'Horizontal Centers'. Add some text below the images and then save and print your triptych.

Documenting your worksheets

Helen Bradley explains some techniques for documenting your Excel worksheets.

When you need to include documentation, instructions and other information on your worksheets, you can use Excel's text features. In some cases you may want the text to be hidden, while in other situations you may want it to be clearly visible. We'll show you a number of ways you can add information.

_TEXT IN A CELL

At its simplest you can type text into a cell and either wrap it around using the Format —> Cells —> Alignment —> 'Wrap Text' option, let it spread out over adjacent cells or widen the column so it fits within it. You can also merge a number of adjacent cells to create a container large enough for your text by selecting the cells and clicking Format —> Cells —> Alignment —> 'Merge Cells'. When merging cells, you'll generally want to enable 'Wrap Text' at the same time.

When using the Wrap Text feature you can create new paragraphs of text within a cell by pressing Alt-Enter to start a new line — pressing Enter doesn't work, as it completes the current cell entry and moves the pointer to the next cell.

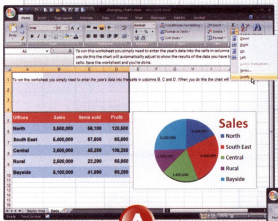
_COMMENTING A WORKSHEET

Comments are a handy way to add notes to a particular cell. A comment travels with the cell if it moves when other cells are deleted or added around it, and comments can be hidden so they won't get in the way of what you're doing. To add a comment, select the cell, go to Insert —> Comment and a small comment box will appear with your name in it. Type your text in the box, drag on its handles to size it and then click outside it to close it.

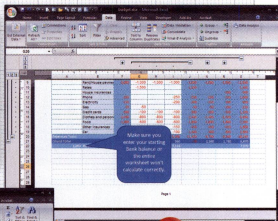
The name that appears in the comment is an Excel setting, which you can change by going to Tools —> Options —> General tab (or 'Excel Options' —> Popular) and typing your preferred name in the 'User Name' box. If you don't want your name to appear in the comment, remove it by selecting and deleting it. The default font for comments is controlled by your Windows settings, and although you can format the text as desired, you can't change the default format without affecting other Windows features.

A cell that contains a comment displays a red triangle in its top-right corner and you can hold your mouse pointer over the triangle to view the comment. To display comments, right-click a cell containing the comment and select 'Show/Hide Comments'. This shows the comment on the worksheet as you work. To delete a comment, right-click the cell and select 'Delete Comment'. Comments don't print when you print the worksheet, even if they're visible.

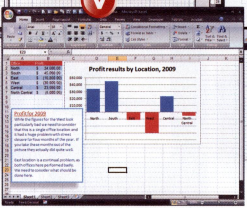
stepbystep MORE TEXT OPTIONS



For larger amounts of text on a worksheet, use a text box. Select the Text Box tool on the Drawing toolbar or Insert tab and drag to create it. Click inside it and type your text. You can create multiple paragraphs by pressing Enter between them and you can format the text as desired.



To break up a long piece of text into a series of adjacent cells, select the cell containing the text and additional cells to the right and below it. Go to Edit —> Fill —> Justify (or Home tab —> Fill —> Justify) and the text will be broken up to fill the cells you selected. This technique works for pieces of text up to 256 characters in length.



You can also use AutoShapes for text, such as shapes from the Flowchart collection. Select the shape and drag to create it on the worksheet. Right-click it and select 'Add Text' to enter your text. Both text boxes and AutoShapes print with the worksheet.

Altering spacing in your text

Stretch or condense your text with ease using **Helen Bradley's** tips for Word.

On the cover DVD
You'll find the video version of this tutorial on this month's cover disc.

When you want to be a little creative with your text, Microsoft Word has some interesting tools you can use. We'll show you how to compress and stretch text to create decorative effects.

_CONDENSING TEXT

In some cases, you may want your text to be tightly condensed so the characters are closer together. To do this, select the text, click Format —> Font —> 'Character Spacing' tab and from the Spacing drop-down list, select Condensed. You can condense text in multiples of 0.1 of a point at a time. For example, condensing by 0.3pt will give you a tighter-looking text than if it were set to zero. This dialog is available in Word 2007 from the Home tab by clicking the Font dialog box launcher.

You can also use the kerning option to reduce the space between certain character pairs like T and O so they're nestled more closely together. Kerning is generally recommended for text 14 points and larger in size, which makes it something you would use for heading and title text.

_EXPANDING TEXT

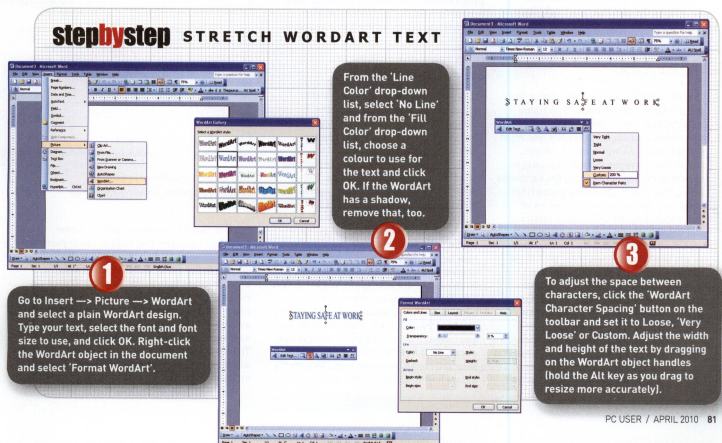
You may want to create a look that has expanded spacing between characters. In this case, select your text and from the 'Character Spacing' tab, click Expanded. You can then expand your text by increasing the space between letters (this doesn't change the font size, just the spacing). It lets you create effects where a long word and a short word are stacked on top of each other and are the same length, for example. You might use this for a document title or on a business card. The Word character spacing tool is a little hit or miss, as you can't stretch the text to exactly your desired width; instead, you'll need to experiment to find the value that works in each situation.

_USING SYMBOLS

Other options for fitting text and creating more interesting effects include placing a symbol between each character. To do this, click between the first two characters, go to Insert —> Symbol and then locate a symbol to use. For example, in the Times New Roman font the character code 00B7 is a tiny dot, which is a good size to place between characters in a word or between words in place of a space.

The Symbol dialog behaves differently to other dialogs, as it will stay open as you work. This allows you to click in your document, move to the next character pair and click the Insert button again. Continue to move and click in the dialog until you have all the characters in place and then close the dialog.

stepbystep STRETCH WORDART TEXT



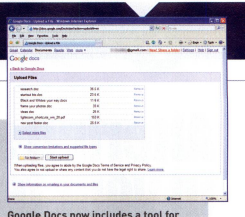
1 Go to Insert —> Picture —> WordArt and select a plain WordArt design. Type your text, select the font and font size to use, and click OK. Right-click the WordArt object in the document and select 'Format WordArt'.

2 From the 'Line Color' drop-down list, select 'No Line' and from the 'Fill Color' drop-down list, choose a colour to use for the text and click OK. If the WordArt has a shadow, remove that, too.

3 To adjust the space between characters, click the 'WordArt Character Spacing' button on the toolbar and set it to Loose, 'Very Loose' or Custom. Adjust the width and height of the text by dragging on the WordArt object handles (hold the Alt key as you drag to resize more accurately).

Managing files in Google Docs

Helen Bradley explains how to upload and download multiple files in Google Docs.



Google Docs now includes a tool for uploading multiple files at a time.

It's no longer difficult to upload or download multiple files at once in Google Docs. Recent changes to Google Docs include tools for bulk uploading and downloading files, which makes it easier for you to back up and manage your work.

_UPLOADING FILES

You'll find the new upload tool in the main dashboard. Click the Upload button —> 'Select files to upload' and choose the files to upload from your hard disk. You can select files individually or a contiguous group by clicking the first file and Shift-clicking on the last file. To select individual files, Ctrl-click on each file to select it. When you've selected the files, click Open to add them to the list. If desired, click 'Select more files'.

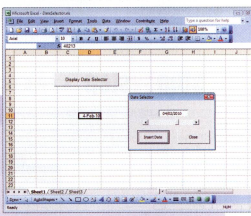
When you're done, click the 'No Folder' button and select the folder in which to store the files, or leave it set to 'No Folder' and you can move the files later on. Click 'Start Upload' to start the process and a progress bar will appear opposite the file being uploaded. As the files are uploaded, they're converted to Google Docs file formats. When the upload is complete, you can move the files to new folders or leave them where they are.

There are some limitations to the files you can upload, which means documents must be in one of these formats: HTML or plain text, DOC, DOCX, RTF, ODT or SXW. Documents can contain up to 500KB of text and embedded images can be up to 2MB per image. For presentation files you are limited to PowerPoint PPT and PPS formats up to 10MB in size, and for spreadsheets you can upload CSV, XLS, XLSX and ODS formats, each up to 1MB in size. PDFs can be up to 10MB in size. There are also limits to the overall size of the spreadsheets in terms of the number of cells, and for presentations, the number of slides. You'll find more information about these at **http://tinyurl.com/ltx5ov**. You can upload a combined total of 5,000 documents and presentations, and 5,000 images.

_EXPORTING FILES

You can also export multiple documents at a time from Google Docs. Select the documents you want to export, go to 'More Actions' —> Export and then select the export format to use for each document type. Click Continue and the files will be compressed into a .zip file that you can then download. It's possible to export up to 500MB of files in a single .zip file which, by Google's own estimate, is around 20,000 files.

With the ability to upload and download documents, spreadsheets and presentations in bulk, it's easy to make offsite backups of your work and convert your work from one format to another.



This month's Excel macro contains code and a routine utilising a scrollbar on a user form.

_MACROS OF THE MONTH

This month's Word macro overcomes one of the issues with Windows Vista Home installations: it will allow you to install alternative languages. Currently, you must scroll through an entire list of options, rather than have the installed languages appear at the top of the list in the Language dialog. The macro displays a dialog from which you can select one of a series of languages: English UK, English Australia and English US. You can also opt to have the change applied to the entire document, so you don't have to select the document before running the macro. If you don't choose to apply the change to the entire document, it will be applied to the text selected when you ran the macro. The macro runs from a user form with three option buttons, each of which represents one of three languages, and a checkbox that you click to select the entire document. When you click the 'Set Language' button, that particular language is applied to either the current selection or the document. The macro and the instructions for adding your own preferences are contained in the file language.doc.

The Excel macro is a date selector that inserts a date into a cell for you. The selector uses a scrollbar to increment today's date, which appears in a text box in the dialog. The macro contains the code for configuring the scrollbar maximum and minimum values, its initial value and how far it moves every time you click the arrows or the bar itself. This data is used to increment the date appearing in the text box. You can move one week at a time by clicking on the scrollbar itself and one day at a time by clicking on its arrows. When you have the date you want in the text box, click 'Insert Date' to enter the date into the selected cell in the worksheet. This macro shows how to configure and use a scrollbar to increment or decrement data in a user form. You can adapt this code to use in your own macros. You'll find the configuration options in the Form_Initialize event and other relevant code in the Scrollbar_Change event and the Button_Click event. The macro also includes code for converting a number to a date and inserting a value as a formatted date in a worksheet cell. The macro and instructions for using it are contained in the file dateselector.xls on the cover disc.

Digital note-taking

Helen Bradley explains note-taking and storing research with Evernote.

Guest app of the month

In this column, Helen Bradley uncovers the best free or budget software alternatives to be found online, and also explains how to use them.

Digital note-taking applications took off with the advent of OneNote from Microsoft, which debuted in Microsoft Office 2003. However, there are some good alternatives if you can't afford OneNote, and one of these is Evernote (**www.evernote.com**).

To begin, register at the Evernote site by clicking the 'Get Started' icon and entering your name, address, a username, password and accepting the Terms of Service. You'll receive an email containing a confirmation link, which you should click to activate your account. Log into your Evernote account using your new ID and password.

Once you do this, open the 'Welcome to Evernote' note and you'll see a link to Evernote for your computer. Select the Windows option, download the standalone version of Evernote to your computer and install it. This local version of Evernote can be run on your computer and you can work with it when you're not connected to the web. It's linked to your online account, so the two can be easily synced.

Launch your local application and you can create a new note by clicking the 'New Note' button, typing the note and selecting the notebook to attach it to — right now you'll only have one notebook. When you're done, click Save. If you have a tablet notebook or a graphic tablet and pen, you can create an ink note and then write or draw your note.

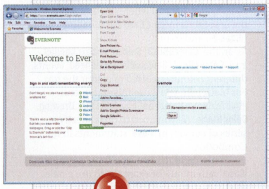
Provided you're connected to the internet, you can sync your online and offline notebooks by clicking the Sync button. This way you'll have the same content available wherever you are.

Click the monthly usage bar to see your current usage and how much free space is available. You get 40MB of storage, which is sufficient for approximately 20,000 notes, 270 web clips, 400 camera phone images, 39 audio tracks or 11 high-resolution photos.

Here you'll also find your Evernote notebook email address — you can use this to email content direct to Evernote so it can be stored as a new notebook entry. For example, if you have an image in your mobile phone, you can email it directly to your notebook.

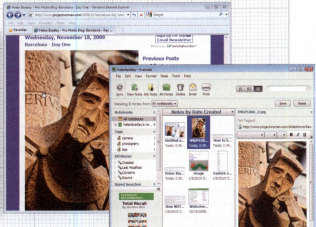
When you use Evernote online, you can choose to share your notebooks with others. To do this, click Sharing —> 'Sharing Setup' —> 'Start Sharing' button. You can share your notebook with the world or you can invite people via email to access it.

stepbystep CLIP FROM THE WEB



1 To clip direct from your browser to Evernote, go to the Evernote web site and click the 'Sign In' button. Before you sign in, drag and drop the 'Clip to Evernote' link onto your Firefox toolbar. If you're using Internet Explorer, right-click it and select 'Add to Favorites'.

When you're browsing the web and you find something you want to keep, select the content with your mouse and click the 'Clip to Evernote' link on your toolbar or launch it from your Favorites. Type a title for the note, add other identifying information such as tags and click Done to add it to your notebook.



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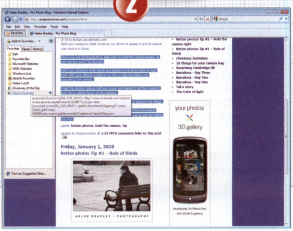
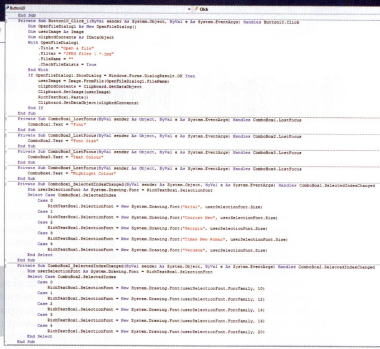


3 To add a new blank note, repeat the process, but without selecting any text. This lets you create a note from scratch at any time. When your notebook is open, you'll see all the entries and you can click to view any of them.



Images in your editor

Helen Bradley shows how to add more formatting options and insert images in our VB editor.

Over the past two months, we've been creating an editor in Visual Basic (VB) Express 2008 using a RichTextBox control. To date, the editor can open and save a Rich Text document, as well as allow editing and some formatting. This month, we'll add the ability to insert an image into a document and some additional formatting tools.

In VB, adding a tool for inserting images is done using the clipboard as a conduit. You tell VB which image you want to use, it adds the image to the clipboard and then inserts it into the document for you. For example, to insert your company logo into a RichTextBox control, you could use code similar to this:

```
Dim userImage As Image
userImage = Image.FromFile("c:\companylogo.jpg")
Clipboard.SetImage(userImage)
RichTextBox1.Paste()
```

The problem with this is that the current contents of the Windows clipboard are lost when the image is added. A better solution involves storing the clipboard contents in a specially declared variable before adding the image and then restoring the contents when you're done. Our code does just this.

In addition, it's important that we give the user the choice of which image they want to insert into the document. To allow this we've utilised the FileOpen dialog and filtered its contents to show only JPEG images. The following code displays the dialog, selects the image the user pointed to, saves the clipboard contents, adds the image to the clipboard, pastes the image into the document, and then replaces the original clipboard content:

```
Dim OpenFileDialog1 As New OpenFileDialog()
Dim userImage As Image
Dim clipbrdContents As IDataObject

With OpenFileDialog1
  .Title = "Open a file"
  .Filter = "JPEG files | *.jpg"
  .FileName = ""
  .CheckFileExists = True
End With
If OpenFileDialog1.ShowDialog = Windows.
```

This is the code to run this month's additions to the editor project.

```
Forms.DialogResult.OK Then
  userImage = Image.FromFile(OpenFileDialog1.
FileName)
  clipbrdContents = Clipboard.GetDataObject
  Clipboard.SetImage(userImage)
  RichTextBox1.Paste()
  Clipboard.SetDataObject(clipbrdContents)
End If
```

We're also going to include a series of ComboBoxes from which the user can select to format text using their choice of font, font size, text colour or highlight colour. Each of these objects is added to the form and the Properties —> 'Items Collection' is set to a predetermined list.

In our example, we're using Arial, Courier New, Georgia, Times New Roman and Verdana fonts. For size, it's 10, 12, 14, 16 and 20 points. For the text colour, there's Black, Dark Brown, Navy, Dark Gold and White. For the highlight colour, we're using White, Off White, Pale Gold, Pale Steel Blue and Deep Gray.

Each of the ComboBoxes works in a similar way, so you can create the code for one and edit it to manage the others. This is the code for `ComboBox1_SelectedIndexChanged`, which changes the font.

```
Dim userSelectionFont As System.Drawing.Font
= RichTextBox1.SelectionFont
Select Case ComboBox1.SelectedIndex
  Case 0
   RichTextBox1.SelectionFont = New System.
Drawing.Font("Arial", userSelectionFont.Size)
  Case 1
   RichTextBox1.SelectionFont = New System.
Drawing.Font("Courier New", userSelectionFont.
Size)
  Case 2
   RichTextBox1.SelectionFont = New System.
Drawing.Font("Georgia", userSelectionFont.Size)
  Case 3
   RichTextBox1.SelectionFont = New System.
Drawing.Font("Times New Roman",
userSelectionFont.Size)
  Case 4
   RichTextBox1.SelectionFont = New System.
Drawing.Font("Verdana", userSelectionFont.Size)
End Select
```

For `ComboBox2_SelectedIndexChanged`, a similar `Case` statement is used. So, if the first element in the ComboBox is selected, this code will be run: `RichTextBox1.SelectionFont = New System.Drawing.Font(userSelectionFont.FontFamily, 10)`. Simply change the number 10 to 12, 14, 16 or 20 where the user selects the second element (`Case 1`), the third (`Case 2`) and so on.

In the `ComboBox3_SelectedIndexChanged` and `ComboBox4_SelectedIndexChanged` events, different colours are used to colour the text. For black text, you'd use this statement: `RichTextBox1.SelectionColor = System.Drawing.Color.Black`. All you need to do is specify a series of colours in `Case` statements in the ComboBox.

To highlight the text, you'll use a similar `Case` statement; for example, to use a pale gold, this statement will do the work: `RichTextBox1.SelectionBackColor = System.Drawing.Color.PaleGoldenrod`. You'll need to add statements to each `Case` option for each colour you place in your ComboBox.

We also added a series of subroutines to reset the ComboBox `Text` property to its original entry (ie. Font, Font Size, Text Colour and Highlight Colour) upon the ComboBox losing focus. This is the code we used for the `ComboBox1_LostFocus` event — you can write similar code for the other three ComboBoxes: `ComboBox1.Text = "Font"`.

Next month we'll finish the editor by adding a printing routine to print the documents created using the editor.

Hassle-free defrag

Helen Bradley explains how to keep your hard disk optimised with Magical Defrag 2.

SPECIAL OFFER

For a limited time, *PC User* readers can get a big discount on the latest version, Ashampoo Magical Defrag 3, which offers an even more efficient defrag engine, multiple configurable defrag jobs and other new features. From inside the program, click the Internet menu —> Upgrade and you'll be taken to Ashampoo's online store.

Over time, as you add and remove files from your hard disk, they are kept in more scattered locations. Ashampoo Magical Defrag 2 can defragment your disk and organise your files so that how they're stored is optimised for faster reading. While many programs can defragment your disk, what makes Magical Defrag 2 live up to its name is that it does this in the background, and it doesn't hog vital system resources as it works.

A fragmented disk is something that happens over time as you add and remove files. The more space you consume on your hard disk, the less large blocks of free space exist for the computer to write large files onto. Over time, the computer will need to reuse the smaller areas that are created when programs and files are deleted.

When the computer writes a large file to lots of small areas on the disk, this results in a 'fragmented' file. Later, when the computer reads that file, it takes it longer to read each of the small segments and deliver the file to you than it would if the file were written to a larger block of free space. A defrag program identifies the fragmented files and, one by one, moves them from their current place on the disk into larger empty blocks of space. The defrag program creates these spaces by relocating other files to create large empty spaces from lots of smaller ones.

Most defrag tools only work when you run them, which means you have to remember to do so. They also often run into problems when files on the computer change as you work — some programs will restart repeatedly when they encounter issues like this or they'll consume valuable system resources as they work, making all your programs run more slowly.

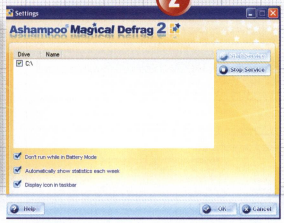
Ashampoo Magical Defrag 2 overcomes these issues by running all the time in the background, so you never have to start or stop it. It also only runs when your computer is idle, so if you're working on an Office document or editing a photo in Photoshop, the program will pause. If you pick up the phone or make a coffee and your computer is idle, then it will fire up and continue to defragment files while you're away. As soon as you start using the computer again, the program will pause, waiting for another opportunity to continue its work. If your computer is left on overnight, it will work while the computer isn't in use.

stepbystep HOW MAGICAL DEFRAG 2 WORKS

1 To launch the program's control panel, start Ashampoo Magical Defrag 2 from your Programs menu. When the defragmentation is complete, it will be scheduled again for a week's time and the program will inform you of this. You can still click the 'Defragment Now' button to run it immediately if desired.

To configure the program options, go to Options —> Settings. Here you can start and stop the service and set it not to run when your computer is running off the battery, which is a good idea if you're on a laptop. You can also determine whether you want the program to install a taskbar icon.

2



3 To see what the defragmenting process has done, click File —> Statistics. Here you can read how many files have been defragmented and how many clusters were moved during the last week and since installation.

Manage your money

Helen Bradley gets your finances in order with B-free MoneyManager.

FREE FINANCIAL ADVICE

Register B-free MoneyManager and you'll be entitled to one hour of free consultation with Lescorp or Mathon Capital for advice on mortgage reduction, private wealth management, strategic financial planning or retirement planning. Go to www.b-free.com.au/pcusers/moneymanager and contact B-free for more information.

Smart people manage their money carefully, knowing what they have and planning their spending accordingly. B-free MoneyManager helps you manage your personal finances.

Once you have the program installed and running (you'll need an internet connection, as this program runs across the internet), you're ready to set it up. Start by entering your bank account details — a name is all that's required and no personally identifying details are stored. In the next step, import the categories you want to use to divide your transactions. A sample list will appear and you can use these. Select the checkbox adjacent to the 'Category Name' heading to select them. Then click Import.

To enter transactions, you can download them from your bank from within the program. Click 'Go To' —> 'Download Bank Transactions'. Select the account from the drop-down list and your bank web site will open inside MoneyManager for you to download your transactions. If you prefer to do this manually, visit your bank's web site and download your transactions as a .qif (Quicken) file. Then, from inside MoneyManager, select Advanced —> 'Upload Quicken file' and import the data.

When this is done, click the 'Transaction List' option. Transactions that are red aren't recognised by the program, blue transactions are recognised as deposits and black transactions are recognised as withdrawals. For any transactions that aren't identified, you can identify them yourself. Click the Category button at the top of the screen to switch into Category mode, and then from the drop-down list in the Category column, select the one to apply the transaction to. You can add new categories and businesses, so you can sort transactions by the businesses you pay or receive money from.

To add a business, from the Transactions list click the (+) symbol to the right of the transaction and add it in the dialog that appears. Use the 'Cash Transactions' option to enter cash expenses that aren't linked to a bank account. You might use these when you want to keep a record of transactions for budget purposes.

When you're ready to do so, you can view a report of your account by clicking Reports —> 'Bank Account Report'. This will show you the transactions and account balance.

stepbystep CREATE A BUDGET

Plant a family tree

Helen Bradley shows you how to get started on your family tree with MyHeritage Family Tree Builder.

Researching and recording details of your family tree is a fun and educational project for all the family. It's also a project that takes time to research and can be quite challenging. MyHeritage Family Tree Builder 4 is a good place to start recording your family's details. It stores all your data and images, and it links to the **www.myheritage.com** web site so you can share your research with family members.

Family Tree Builder comes with a sample file and it can import a GEDCOM file from another application; if you're just getting started, you can start a new blank project. To familiarise yourself with the program, open the sample project by choosing 'Load Sample Genealogy Project'.

Down the left of the screen are List view and Tree view, which are different ways to view your data. In the middle of the screen are the records for the currently selected person in the list and their spouse. If you double-click on a person's name in List view, their record will open, together with their spouse's record. At the bottom-right of each person's record is an Edit and a Photos link, and across the top of the data window are tabs that reveal different information about the selected person. Double-click on a person's record to open the editing window and view the type of information you can record.

Click the Photos link to view and add photos of the person. To return to Tree view, click the tree icon on the toolbar. To see the charts that the program can produce, click the Charts button. You'll be able to view ancestor charts, descendent charts, close family charts and an all-in-one chart. Click the type of chart to view and select whether you want the chart displayed horizontally or vertically.

UPGRADE OFFER

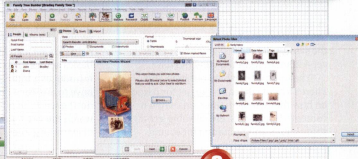
From within your exclusive version of MyHeritage Family Tree Builder you can upgrade to the Premium version, which includes a one-year subscription to a Premium family site, all-in-one charts, Smart Research and other additional features.

To change the appearance of the chart, right-click it and select 'Chart Options'. You can then choose a border or use no border at all. You can also change other elements such as the font, background colour and the facts included with each person. There are chart styles that you can apply by simply clicking the Styles button on the toolbar and selecting the style to use. The charts are customisable, so you can choose to display and print exactly what you want to see.

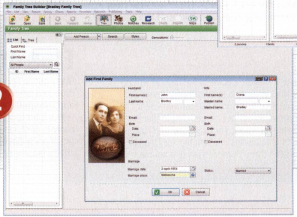
To see a map, click the Maps icon and a map of locations relevant to people in the family tree will be displayed. To return to the main program window, you can click Home view or Tree view.

stepbystep CREATE A FAMILY TREE

1 Once you have a basic understanding of how the program works, you're ready to create a new family tree for yourself. To do this, click New and type a project name. Click Next and choose whether to publish your project to a family site on www.myheritage.com — it's a good idea to do this as a backup of your data.



2 Click Next, select the languages for your project and click Finish. Click the 'Add Family' button to add your first family member. If there are details you don't have, leave those areas blank, as you can come back and add that information later.



3 Once you've added the first family member, you can move forward and add sons and daughters, or move backwards and add fathers and mothers. If you have photos for your family member, click Photos and add one or more photos for that person. Continue to build the family tree as you gather your information.

Homework help

Gail Lipscombe looks at the best sites for helping students (and their parents) with homework.

Whether or not you think homework is a valuable part of your child's education, having to do homework and assessment tasks is inevitable. And while homework isn't usually a whole lot of fun, the internet can make it much less of a chore, with loads of sites just waiting to help. There are many sites that have done a lot of the legwork for students, listing loads of links to information on all kinds of school subjects and topics within those subjects. In this feature, we'll look at sites with information right across the general curriculum. However, subject-specific help is readily accessed using Google. Just type in the subject you're interested in, including the words **free** and **help** (for instance, **free maths help**), and you'll be presented with loads of useful sites.

Many of the sites below also have an 'ask an expert' feature, where kids can access the answers to thousands of questions already asked by other students, or ask their own.

_PARENTS & HOMEWORK

While kids should be doing their own homework and projects, parents will be called on at some stage to explain something kids don't understand or lend a hand with something a bit tricky. The problem is that many parents feel totally inadequate when it comes to helping out, as things have changed a lot since they went to school — the answers are still the same, but how you get there can be very different from the good old days.

The internet can help out here, too. There's lots of advice on the net for parents on how they can help their kids when it comes to homework, establishing good study habits and preparing for exams.

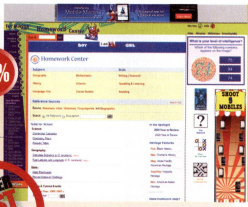
_REVIEWS

FACT MONSTER HOMEWORK CENTER

WEB www.factmonster.com/homework

95%

PC USER BEST BUY



The Fact Monster Homework Center is part of the huge Information Please web site and is brimming with resources to help kids with homework and assessment tasks. They can click through to subject-specific information in the Subjects section, get help developing skills such as writing and studying in the Skills section, or go to the Reference section for access to a load of resources including almanacs, maps, a dictionary, an encyclopaedia and biographies. There's also a range of tools available, such as calculators, converters and tables. A lot of the information is US-centric, but a huge amount is relevant to us.

There's also an extensive list of Q&As with a featured question of the day. Kids should check out the other tabs on the left of the page for additional links and information.

PC User says: A little US-centric, but there's plenty of good information here.

THE KIDSKNOWIT NETWORK

WEB www.kidsknowit.com

PC USER BEST BUY

90%

This is a fabulous network of sites that will motivate kids to learn and is quite different to all the others here. The fun visual and audio approach will be more engaging for younger kids, reluctant learners and those who learn best by seeing. The site's educational videos will help kids get a good grasp of concepts and basics across the curriculum; each video introduces a topic and at its conclusion, kids have to answer a quiz on the content. If they don't get 80% or above, they're instructed to watch the video again. There are also heaps of learning games that cover all the major subject areas, printable educational comics, science video podcasts (featuring the funny, freaky Nanna KnowItAll) and songs based on educational topics across the curriculum. Kids can search by topic or presentation style.

PC User says: A visual approach to learning that will motivate even reluctant students.

Encyclopaedias

Electronic encyclopaedias have come down to a two-horse race: Encyclopaedia Britannica and Wikipedia. Encyclopaedia Britannica comes in two forms, besides the traditional printed option: $69.95 a year for the online reference product (**www.britannica.com**) or $99.95 for the deluxe suite on DVD. Wikipedia (**http://en.wikipedia.org**) had over 3 million articles at the time of writing and is free. Wikipedia is community-generated and edited, so errors can slip through, although the community acts as a watchdog to identify and rectify mistakes. That said, the first rule of research is to always confirm the accuracy of information through more than one source.

Free online tutoring

Many public libraries and schools across Australia provide a free online tutoring service through the **http://yourtutor.com.au** site, where kids can chat live with a tutor to get help with their homework or other aspects of schoolwork. To find out if your local library or school subscribes to such a service, ask your child's teacher or call your local municipal council.

85%

ASK KIDS

WEB www.askkids.com

Ask Kids is the junior version of the popular Ask Jeeves web site, which lets you type in a question and then presents you with links to sites where you can find the answer. It has a very simple interface and is easy for kids to use, as they just ask their question in regular language; for example: how do you do long division? They are then presented with a list of relevant web sites, video and images, which they can then work their way through. On the Schoolhouse tab, kids can browse thousands of web sites with educational content (these can be filtered by age group), or they can narrow down their search by clicking on one of the school subjects in the left-hand panel (mathematics, science, history and language arts). Kids can also access other learning resources, including an environmental encyclopaedia and maths basics.

PC User says: This site is easy to use and kids can ask specific questions.

BJ PINCHBECK'S HOMEWORK HELPER

WEB http://tinyurl.com/5oonwh

85%

Now part of the Education section of the Discovery Channel web site, BJ Pinchbeck's Homework Helper has been around for years, helping students through links to information for assignments and school projects. Kids can browse alphabetically through an extensive list of links to useful educational information, or choose from a drop-down list of subjects. The subject list includes 'Ask BJ', where kids can click to ask a question. On the left-hand side of the home page are links to free clip art, puzzle makers, brain boosters, science projects and more. There are resources for educators, including a 'Lesson Plan Library', and 'Home Resources' has interesting video lessons on the major subject areas.

PC User says: Loads of links to quality web sites and the ability to ask questions.

CYBERSLEUTH KIDS

WEB http://cybersleuth-kids.com

85%

CyberSleuth Kids is an internet search guide for students from kindergarten to Year 12, so it's one all the kids in the household can use. They can enter a keyword or click on one of the 20 topic groups to browse. When kids click on a topic, they're presented with thousands of links, with descriptors of the content to help filter them. The site also offers 85,000 pieces of free clip art and video, which is very handy for projects and presentations. The site also has loads of other interesting things for kids to do including crossword, word search and Sudoku puzzles; colouring pages; safe online games to play that are regularly updated; and downloadable maths worksheets on which to practise.

PC User says: Caters for all students and has fun things to do between assignments.

YAHOO! KIDS HOMEWORK HELP

WEB http://kids.yahoo.com/learn

85%

The Studyzone area of Yahoo! has a range of educational information and tools for kids, including links to information about animals and other subjects, science videos and more. Kids can also ask homework questions by clicking on the 'Ask Earl' tab and typing in their question, name and age. The Reference tab accesses a dictionary and encyclopaedia, but take care with some of the spellings, which are US English. There's a conversion calendar and a 'World Factbook', where kids can find all sorts of information on countries around the world, including history, climate, currency, population, flags, maps and more.

PC User says: This site offers interesting content for younger kids.

Other useful sites

refdesk.com Fast Facts
www.refdesk.com/fastfact.html
This site contains loads of links to reference tools and useful statistics.

Aussie Educator
http://tinyurl.com/ydp7qvq
A good collection of homework help sites.

City of Canterbury Homework Helpers
http://tinyurl.com/6889bj
Useful links to various homework topics that are searchable by subject.

Homework Helpers
http://tinyurl.com/ye39kpp
Links to a variety of web sites that are organised by school grades.

National Library of Australia FAQs
www.nla.gov.au/infoserv/faq/
Answers to the library's most popular reference questions, browsable by subject.

State Library of Queensland Homework Help
http://netlinks.slq.qld.gov.au/hw.htm
Homework help links sorted by topic.

MindZinger
http://mindzinger.com/answers
On this site tutors answer kids' homework questions live. Kids can also browse through past questions and answers.

eNotes
www.enotes.com
More than 3,500 literature study guides, Q&A forums, literature criticism, reference content and more.

HOMEWORKSPOT.COM

WEB www.homeworkspot.com

HomeworkSpot is a portal that provides links to all kinds of information for students with separate sections for different grade levels: elementary, middle and high school. These are US age breakdowns, but they correspond roughly with primary, junior and senior high in Australia. Each age grouping has links to particular subjects, which contain links to useful information for help with homework and assignments. There's also a reference section, with a range of materials including dictionaries, almanacs, encyclopaedias, maps, calculators and more. The sites tend to be US-centric, but there's lots of valuable information for Australian students. There are also resources for parents and teachers.

PC User says: A good reference resource that's easy to access.

80%

KIDSCLICK!

WEB www.kidsclick.org

The links on this search portal are selected by librarians at the Kent University in the US, so you can be sure they're reputable and well suited for your child. They're divided into categories such as facts and reference; science and math; the arts; weird and mysterious; religion and mythology; sports; society and government; machines and transportation; literature; reading, writing and speaking; computers and the internet; and geography, history and biography — all with sub-categories, so it has just about every homework need covered. However, because the site is US-centric, watch out for spelling discrepancies, particularly when using the tools in the reference section.

PC User says: A great collection of reputable sites specifically picked for kids.

80%

KIDS.NET.AU

WEB www.kids.net.au

Kids.Net.Au comprises four sections — 'Web sites', Encyclopaedia, Dictionary and Thesaurus — or kids can enter a keyword in a search box to see references from all areas of the site. Click on the 'Web sites' icon to be taken to selected sites in categories such as arts, computers, entertainment, games, health, news, people and society, sports and hobbies, teen life and your family. The Encyclopedia section sources information from Wikipedia (see the Encyclopaedias box on page 89 for more on Wikipedia). Although Kids.Net.Au is Australian-based, a lot of the links are to fairly US-centric sites, including the Encyclopedia and Dictionary, so once again, watch out for US spellings.

PC User says: This reference site caters for a full range of school and preschool ages.

80%

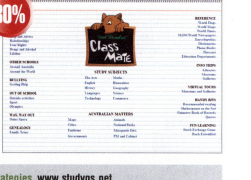
WEB WOMBAT CLASS MATES

WEB www.webwombat.com.au/kidsclass & www.webwombat.com.au/schools/secondary

Web Wombat is a meta search engine and its Class Mates resource is first-rate. It's divided into two sites: Kids' Class Mate, which caters for primary-aged students, and Class Mate Secondary, aimed at high school students. Both contain links to educational material and are visually designed to appeal to each group. They cover a range of issues in addition to homework help, such as space, science, dinosaurs, maths, communications and music. Class Mate Secondary is much more comprehensive, covering the major school subjects, issues such as bullying, genealogy, reference tools, virtual tours of museums and galleries, and more. Unlike other sites here, it features links to Australian information.

PC User says: The only site here that covers lifestyle issues such as bullying.

80%



Homework & exam tips

Homework can form part of students' assessment for the year, so if they want to maximise their end-of-year results, they need to develop good homework habits and organisational skills. Here are some sites that offer advice on how to set up students for success.

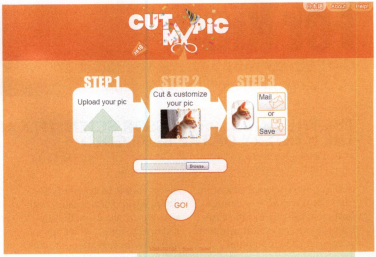
Study Guides and Strategies **www.studygs.net**
A brilliant site with study advice and exam strategies for older students.

Study Tips for Students **www.studynoteshelp.com**
Comprehensive advice on every aspect of study and exams.

About.com Homework/Study Tips **http://tinyurl.com/3kvllg**
A collection of articles on effective time management and study skills.

Top web sites

Gail Lipscombe reveals 10 useful and interesting web sites in our monthly guide.



The Cut My Pic web site allows you to crop your digital snaps online.

Connected Women

www.connectedwomen.net.au

The Connected Women site specifically targets women with an interest in technology. It's written in plain English and covers all types of technology from gadgets to whitegoods via news, reviews and informative articles. The site also has a Q&A section where women can get answers to their tech questions, plus there are regular competitions you can enter to win some great consumer tech products. You can also sign up to receive a weekly newsletter.

eMedical

www.emedical.com.au

The eMedical site comprises three separate sections: 'Medical info online', 'Consulting online' and 'Pharmacy online'. The first section has links to and reviews of useful web sites, with information on a huge range of medical issues and health issues, plus chat rooms. The Consulting section consists of message boards on a variety of health issues where you can communicate with other site members. The Pharmacy section lets you buy prescription and non-prescription medications online.

The Cosmetics Club

http://au.cosmeticsclub.com

There are so many sites offering discount cosmetics these days that finding the best bargains can be a very time-consuming process. This site is the ideal solution: it searches over 60 online stores and eBay sellers to find the best deals online for brand-name cosmetics, skincare products and fragrances. It's free to join the club and as well as finding the cheapest price for the products you want, you get a percentage of the purchase price as a cashback reward.

Friends Reunited

www.friendsreunited.com.au

As well as letting you stay connected to others, the internet helps you hook up with people you've lost contact with. This site allows you to search for and contact people you knew at school, at work and through clubs and associations. The service used to cost money, but now it's free; it acts as an intermediary, connecting members on your behalf so your contact details remain private unless you choose to share them outside the site.

All Woman Talk

www.allwomantalk.com.au

This site gives women the chance to become influencers by giving their opinions on a broad range of topics, products and services specific to women. By filling out a profile and completing the site's surveys, if you're accepted as a panellist, you'll be eligible to go into the quarterly prize draw where you'll have the chance to win between $100 and $500 in cash. There are also forums where you can chat with other women on a variety of issues.

Giveaway of the Day

www.giveawayoftheday.com

This web site offers a different licensed software product to download for free for 24 hours, with no strings attached. The site details the software's features, a link to the commercial product and the size of the file to download. Each day's software is available from 7pm (AEST) until the same time the next day and you can sign up to get daily email notification of each new product offer. All software is fully working and yours to keep.

searchzooka

www.searchzooka.com

This search tool lets you trawl the net using all the major search engines. It applies a common advanced search algorithm that lets you filter results without having to remember the different advanced terms used by each one. You can filter by language, relevance, time period, country of origin, location of the keyword, file type and more. It also remembers your commonly used searches so you can return to them in a click. There's a video tutorial on the site as well.

Lazyfeed

www.lazyfeed.com

If you like to keep abreast of what's new on the net in a particular subject area, but don't want to sign up for RSS feeds from individual sites and trawl through a whole bunch of stuff you may not be interested in, you might want to give Lazyfeed a try. The home page shows live updates on the following topics: sports, TV shows, music, movies and food. If you sign up to the site, you can add your own topics for your personal Lazyfeed page.

The Freecycle Network

www.freecycle.org

This site will let you offload your unwanted goods for free to other people in your local area in need of those items, making both parties happy. Freecycle is a global community with almost 7 million members and is broken up into geographical groups, with a volunteer resident in each area moderating that group's classifieds. Membership is free. Just type in your location to find your nearest group, or you can start one if there isn't one already.

Cut My Pic

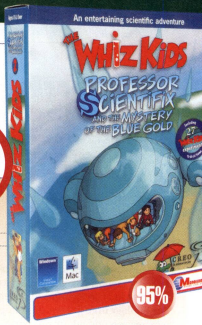
www.cutmypic.com

This site does just one thing — customised online cropping — but it does it well and very quickly. In a simple three-step process, Cut My Pic lets you upload an image to the site, crop it (adding rounded corners and drop-shadows if desired) and then email it. The service is free. This is a good, quick cropping solution if you're away from your computer and don't have your regular software handy.

For kids

Gail Lipscombe reviews the latest software, web sites and tech toys for kids.

PC USER BEST BUY

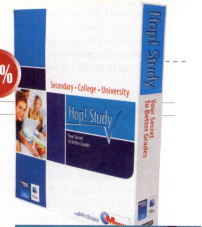


THE WHIZKIDS: PROFESSOR SCIENTIFIX AND THE MYSTERY OF THE BLUE GOLD

AGES FROM EIGHT YEARS / **PRICE** $29.95 / **CONTACT** MANACCOM
PHONE (07) 3331 5999 / **WEB** www.manac.com.au

Here's another science adventure from *The WhizKids* educational series that will take kids on a fun learning journey exploring topical science and environmental issues. In this adventure, the WhizKids get a request for help from a friend in Africa where the water supplies are mysteriously disappearing, with some wells drying up and others filling with seawater. At the same time, an evil mad scientist, who appears to have reformed after a stint in jail, has found worldwide success with his desalination plants. Could they be connected? Kids find clues by reading printable fact sheets and answering questions on environmental topics. There are three levels of difficulty, so a range of abilities is catered for, giving the software a longer shelf life.

PC User says: **A fun way to learn about the environment and topical science issues.**



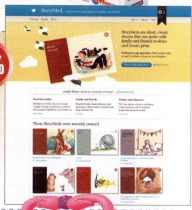
85%

HOP! STUDY

AGES FROM 13 YEARS / **PRICE** $29.95 / **CONTACT** MANACCOM / **PHONE** (07) 3331 5999
WEB www.manac.com.au

This program helps students organise information for essays and projects, and manage their time for better homework and study outcomes. The Planner tool helps kids organise their whole school year by plotting assignment deadlines and developing an action plan for their work — they can also factor in their personal time for a good work/life balance. The work management section offers 11 project templates to help plan and complete assignments, including breaking tasks down into manageable steps. There are 70 additional templates for diagrams, timelines and more for organising research information. The testing features are also great for reviewing information. All this is packed into a simple, clean interface that just works.

PC User says: **A great student resource for easily organising time and tasks.**



85%

STORYBIRD

WEB www.storybird.com

The Storybird site offers kids the opportunity to create free ebooks from their own stories, using exclusive illustrations that are provided as part of the service. The illustrations are more than just a complement to the story; they're also meant to be an inspiration for the creation of stories. The ebooks are simple to put together using a drag-and-drop process. The site will auto-generate a cover for the story, but this can be altered. Once the book is created, kids can email an invitation link to friends or relatives such as grandparents to show off their work. Kids can read published stories from other kids on the site, comment on them and create a favourites list. For very young children, parents can create stories for them.

PC User says: **A great resource to encourage young kids' reading and creative writing.**

FLUTTERBYE FAIRY GLOBE

AGES FROM FIVE YEARS / **PRICE** $49.99 / **CONTACT** FUNTASTIC
PHONE 1800 244 543 / **WEB** www.funtastic.com.au

The Flutterbye Fairy Globe is a clear plastic globe, which is meant to be a dew drop, set in bright pink housing with a little fairy inside, who flies around her fairy world when the globe is switched on. She'll to talk to you (over 60 phrases), dance for you and give you kisses, and you can ask her questions. However, you need to look after her by feeding her, telling her you love her and saying goodnight when it's time for her to go to sleep (you can wake her up again by tapping on the globe), all via the globe's care buttons. This toy was the winner of the Girls Toy of The Year Award at the 2009 Australian Toy Hobby and Nursery Fair and is sure to be a hit. It requires three AA batteries to operate.

PC User says: **Very cute, but it's really just for the girls.**

80%

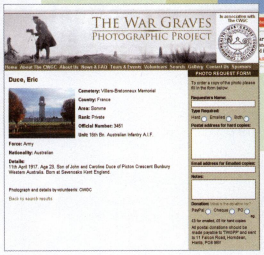
Lest we forget

Heather Garnsey explains how to find war graves and military records online.

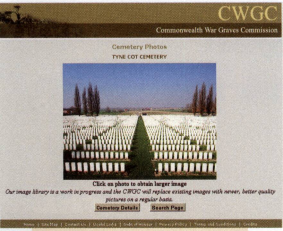
Interested in knowing if any of your family enlisted in the army during WWI? Trying to prove a story that someone on your tree died at Gallipoli? This month we look at some sites that might help.

The work of the Commonwealth War Graves Commission (CWGC) to honour the burial place of all service men and women is well known and its web site (**www.cwgc.org**) is a great starting place to find family members among its 1.7 million records. From the home page you can search the records of an amazing 23,000 cemeteries worldwide — just enter what you know through the 'Search our Records' link. The results page will show details of any matching burials or commemorations, including the memorial inscription as well as links to a plan and photographs of the cemetery. These are especially useful if you're planning to visit and want to find a specific memorial.

But if your chances of getting to the other side of the world to visit your great-grandfather's headstone are slim, you'll be interested in a new site: the War Graves Photographic Project. Working in association with the CWGC through the work of dedicated volunteers, it aims to photograph every headstone in all the CWGC cemeteries around the world. Already more than a million names have been recorded and you can do a search at **www.twgpp.org** to determine if any of interest to you have already been photographed. If so, you can order a high-resolution copy for £3 by email or £5 by mail.



The War Graves Photographic Project is run by volunteers to commemorate all those buried in CWGC cemeteries around the world.



The Commonwealth War Graves Commission site, showing details for Tyne Cot Cemetery.

In recent months there's been renewed interest in the work of the CWGC, following the discovery of mass graves of Australian and British soldiers in Fromelles. You'll find some fascinating footage about this project in the 'Audio-Video' section of the site, which promises to be updated as more commemoration events take place during 2010. Family historians are helping track down possible descendants and DNA is being used to determine relationships in the hope that as many as possible can be positively identified. This would mean their name can be placed on their new headstone, rather than the 'Known only unto God' inscription that's used when identification is impossible.

If you'd like to learn more about the service records of family members, you should visit the National Archives of Australia at **www.naa.gov.au**. There are a number of ways you can explore the military records they hold, including using the 'Mapping our Anzacs' link from the home page (which lets you view the records of everyone who enlisted from a specific Australian town or suburb) or by entering their name using the 'Record Search' feature, located at the top-right of the home page. All WWI personnel records have been digitised and are downloadable for free, and WWII dossiers are being gradually added. The latter links in nicely with another site, the World War Two Nominal Roll, located at **www.ww2roll.gov.au**.

A survey of sites of military interest wouldn't be complete without mentioning the brilliant Australian War Memorial site at **www.awm.gov.au**. There'll you'll find background information about the various campaigns in which Australians have fought, pictures, links to biographical databases and much more.

With Anzac Day on the horizon, it's a great time to explore these sites.

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Microsoft's Zune HD is its second offering in the portable media player space and while the original was a little underwhelming, the new model actually manages to be a solid counterpoint to Apple's iPods. The Zune HD still hasn't officially been released outside the US, but local online retailer Mwave (**www.mwave.com.au**) is offering imported models in 16GB and 32GB sizes, and kindly lent us one for testing. In overall function, the Zune HD's nearest competitor is the iPod Touch — both are touchscreen-driven devices ostensibly made for media playback, though they have enough grunt under the bonnet to do considerably more. It isn't as big as the iPod Touch's screen, but the Zune's 3.3in, 480 x 272-pixel OLED display is pretty eye-popping, with gorgeous, vibrant colours across the board. Its native 16:9 aspect ratio makes it great for video and it even slightly one-ups the Touch for brightness and clarity. Also appealing is the Zune's narrow body, and it's almost unreasonably light at only 75g — you barely know it's there. The built-in 11g Wi-Fi can, rather uniquely, sync media files from your PC over the air (either automatically when plugged into a power source or manually from the Zune's interface). It's obviously not as fast as being plugged into a PC via USB, although we wirelessly transferred 200MB of tracks in around 5 minutes in testing, so it's OK for quickly updating podcasts and the like. In general, it works pretty much flawlessly for media playback. Where the Zune HD stumbles in comparison to the iPod Touch is in expandability — Microsoft doesn't really seem to be pushing the Zune as anything more than a media player. While there are downloadable free apps you can run on the device, including a Twitter client and a handful of games, it's not even worth comparing to Apple's massive App Store. Buying an import generally involves some caveats and the major one here is not being able to legally use Microsoft's iTunes Store equivalent, the Zune Marketplace. Currently, this online store is US-only and the desktop app disables access to it unless you change your region setting to the US. Doing the latter will let you download free content, but the only way you can legally make music or movie purchases is with a US address and US credit card. It's also worth noting that the Zune's built-in HD Radio feature only half works in Australia — you can get analogue FM stations through the device, but not digital (HD Radio is a US-specific digital radio tech that's not in use this side of the pond). Overall, if you're after a slick, small media player and aren't interested in Apple's offerings, the Zune is a solid contender. However, as usual, buying an import requires caution.

— Dan Gardiner

PC User says: **Great as a media player, but has some caveats associated with importing.**

70%

VARTA SOLAR CHARGER

PRICE $59.95 / **CONTACT** VARTA / **PHONE** 1800 623 118
WEB www.en.varta-consumer.com

If you've ever wondered what happened to old mobile phone cases, wonder no more. They've clearly been recycled into Varta's solar battery/mobile phone charger, which looks suspiciously like most of the mobile phones of the late 1990s. The Varta charger opens up into a pair of solar cells, which charge two supplied 2,100mAh AA batteries. You can then use these in any compatible device or, with the supplied mobile phone chargers, use it directly to recharge your mobile. This is as simple as finding the correct adapter, attaching it to the USB cable and flicking the charger switch to the Out position. If the Varta batteries aren't flat this is OK, but if they are, be prepared for a bit of a wait as the charge time from flat to full is a whopping 18 hours of direct sunlight. As a backup charging solution with flexibility, there's a lot to like about it — as long as you've got plenty of patience.
— Alex Kidman
PC User says: A good emergency charging solution at the right price.

SONIQ IM600K

PRICE $129 / **CONTACT** SONIQ / **PHONE** 1300 765 663 / **WEB** www.soniqav.com

This combo iPod dock, alarm clock and AM/FM radio from Hong Kong-based electronics brand Soniq sells for a respectable $129, and given the price, it does an OK job at its chosen tasks. The iM600K's most unusual feature is its motorised iPod dock, which moves up and down so the iPod can actually sit within the unit's body, with a clear plastic window allowing you to see what's on the screen. In use, however, having your iPod inside the stereo isn't really that great an idea — while the unit's built-in controls allow you to skip backwards and forwards once you've started an album, there's no way to change artists or albums without first ejecting the iPod. The radio generally worked fine, although we weren't able to pick up any AM stations in our CBD office due to the lack of an external AM antenna, so be warned that your mileage may vary with this feature. As for sound quality, the 8W RMS speakers can best be described as adequate — they're not that strong at the low end and can sometimes sound a little hollow. They really need to be placed in an elevated position to get decent audio quality. The speakers aren't shielded, so if you want to use them with an iPhone, you'll need to put it in Airplane mode to avoid interference.
— Dan Gardiner
PC User says: Adequate for the price, but it can sound a little hollow.

TOMTOM CAR KIT FOR IPOD TOUCH

PRICE GPS KIT, $129; TOMTOM AUSTRALIA GPS APP, $99.99
CONTACT TOMTOM / **PHONE** 1300 135 604 / **WEB** www.tomtom.com

GPS giant TomTom has had an add-on car kit, comprising a screen mount and additional GPS chip, for iPhone users for some time now. The iPod Touch version of the kit does much the same thing, offering a screen mount and GPS chipset to work with TomTom's existing iPhone app from Apple's App Store. As the Touch is a GPS-free zone, the App has, up until now, been functionally useless for Touch owners. In testing, we were highly impressed. The screen mount itself is practically a clone of that found in the TomTom Start, so it's nicely compact. Everything works well and up against an iPhone 3GS running TomTom's app, the iPod Touch tracked with more accuracy and dealt better with changes in direction and routes as a result. The real problem with the car kit isn't its utility, it's the price. If you already have the $100 TomTom Australia GPS App, chances are you have an iPhone to run it on; even then, $129 to add GPS to the iPod Touch isn't bad. But if you don't, the combined price runs to $229 — nearly $30 more than the TomTom Start, a dedicated and more feature-rich GPS.
— Alex Kidman
PC User says: Works superbly, but the price is a real deterrent.

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HTC HD2

PRICE $829 / **CONTACT** HTC / **PHONE** 1300 769 669 / **WEB** www.htc.com/au

The HD2 is HTC's latest Windows Mobile 6.5 smartphone. We've commented before that Windows Mobile 6.5 is the least smart of the smartphone platforms out there and that's still true, but HTC's done such a good job hiding Windows Mobile 6.5 on the HD2 that you may never notice it. For starters, you're more likely to be hooked by the HD2's massive 4.3in screen. Then there's the Sense user interface, a skin that HTC has applied across its phone ranges (including Android models) that gives it a way to hide Windows Mobile 6.5. The underlying processor is speedy, which translates into a slick phone experience. With an eye to the business market, the HD2 is also conference call-capable and can act as an ad hoc 802.11g Wi-Fi router for a limited number of clients. It only uses WEP security for this, which is mildly troubling, but it's extremely easy to get up and running. Initially the HD2 will be Telstra exclusive, meaning you'd really want to lock down the Wi-Fi to disable additional charges, but on the plus side, you're more likely to get a speedy connection.

— Alex Kidman

PC User says: Easily the new champion Windows Mobile smartphone option.

LOGITECH PERFORMANCE MOUSE M950

PRICE $150 / **CONTACT** LOGITECH / **PHONE** 1800 025 544 / **WEB** www.logitech.com

Very much like the old MX Revolution, Logitech's wireless Performance Mouse M950 looks pretty posh, with smooth wavy curves in abundance. Ergonomically, it's shaped for the right-handed population, so lefties are unfortunately out of luck here, and it features four programmable buttons on the thumb side, three on the scroll wheel and a toggle that sets the scroll to free-wheel or incremental. The M950 runs wirelessly via the tiny Unifying receiver (making it compatible with multiple Logitech devices) and a single rechargeable AA battery, which can be charged via a USB port on the front of the mouse. However, the real strength of the M950 is in the tracking technology, called Logitech Darkfield Laser Tracking, which can more effectively and efficiently differentiate between minute mousing surface irregularities, like glass. We took the M950 for a run over several surfaces and had no problems on glass (as long as it was over 4mm thick), ice, hair, a bald head, dog, cat, baby's bottom and even another Darkfield mouse, and it worked flawlessly. Basically, it should run on everything you need it to.

— Troy Coleman

PC User says: Expensive, but fantastic to use — as long as you're right-handed.

NAVIGON 6300

PRICE $499 / **CONTACT** NAVIGON / **PHONE** (02) 9772 9200 **WEB** www.navigon.com.au

Navigon isn't a big name in Australian GPS circles, but if the 6300 is anything to go by, established players will have some serious competition at last. It's an attractive-looking GPS unit, with smooth edges and a menu system with pop-up screens and options, including the ability to choose the order in which you want to search for a destination. Maps have a 3D terrain effect layered onto them on the 4.3in screen. While it's not massively representative — larger valleys still appear as small bumps — it's still a step up from the usual flat 2D plane presented as 3D, which so many GPS units use. The screen mount is rather large and therefore a bit tricky to carry with you when not in use. The voice control feature is a little slow on the uptake, making it more of a gimmick than anything really functional. Text-to-speech handled some street names better than others, but some users may also find it overly chatty, as it tended to comment on every possible permutation or change it detected.

— Alex Kidman

PC User says: The 6300 is a premium-priced GPS, but it's worth it.

60%

LG NEW CHOCOLATE SLIDE BL42K

PRICE $529 / **CONTACT** LG / **PHONE** 1300 542 273
WEB www.lge.com/au

LG's budget take on its uber-slim yet long New Chocolate phone is the New Chocolate Slide. That's slide, as in it opens up via a slider mechanism, rather than any indication that it might be slippery or melty, by the way. The physical handset uses a much more regular rectangular shape than the New Chocolate, making it easier to fit into a pocket. Annoyingly, while it charges via a now-standard micro-USB port, that port also does double duty as the headphone jack. A 3.5mm plug would have been too much to hope for, it seems. The mechanical keys are responsive for dialling and the basic interface is functional, but not exactly feature-rich. We also found LG's choice of menu layouts intermittently confusing. On one call where we ended up on hold, the Chocolate Slide decided to mute the speaker beneath two layers of menus, which led to much confusion. While the Chocolate Slide looks like it's quite high end, bordering on a smartphone, it's really more of a basic phone in fancy clothing. As long as you accept that and can work around and learn LG's interesting menu, it's a fair yet unexceptional phone.

— Alex Kidman

PC User says: A capable yet simple phone in a sleek form factor.

80%

MICROSOFT ARC KEYBOARD

PRICE $79.95 / **CONTACT** MICROSOFT / **PHONE** 13 20 58 / **WEB** www.microsoft.com.au

There's no reason any keyboard not built into a laptop needs to be less than full size, yet here we are with Microsoft's Arc. A companion to the stylish Arc mouse, the Arc keyboard seems a natural competitor to Apple's equally tiny wireless desktop keyboard. The two are similar in many ways: wireless connection, small size, distinctive design and laptop-style scissor keys are common to both. In the Arc's case, the combination of slightly undersized keys and a raised central curve make this less than ideal as a day-to-day desktop keyboard. The curve falls short of that found in most ergonomic keyboards, making for a novel typing position in which our hands formed a pronounced A shape, pointing towards each other too much to make for comfortable typing. However, transferring the Arc from desk to lap makes is a different story. The Arc is very light, and about the right size to comfortably sit on your lap when used in conjunction with a console or media PC. That same problematic typing position also becomes very natural when used this way, which is to say, keep this keyboard away from your desk and it's a surprising winner.

— Dominik Krupinski

PC User says: Lousy for desktop use, but makes for excellent lap-bound typing.

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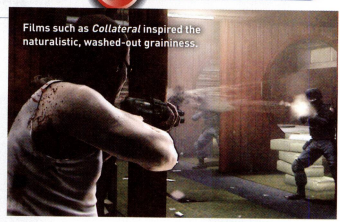
Shoot to kill

The ***PC User* team** takes a sneak peek at upcoming game releases, starting with this shooter.


Films such as *Collateral* inspired the naturalistic, washed-out graininess.

KANE & LYNCH 2: DOG DAYS PC

ALSO ON PS3, XBOX 360 / **WEB** www.kaneandlynch.com / **RELEASED** 2010

We weren't that taken with the original *Kane & Lynch*. It had great ambitions, a pair of charismatic anti-heroes and a Michael Mann sense of gunplay. However, it was let down by a gentle slide into generic military shooterisms and dumb AI. Developer IO Interactive has promised to fix all that in the sequel. Kane and Lynch are now living in the Far East and they've screwed someone they shouldn't have: the Shanghai underworld. Obviously, the Shanghai underworld comes down on the troublesome twosome like a ton of bricks. In *Dog Days*, you take the role of Lynch, rather than Kane. Lynch is a dyed-in-the-wool psycho and handy with a shotgun, which is fortunate because the game includes a lot of shooting. IO Interactive is striving for realism with Dog Days. The developers spent ages watching YouTube footage of recorded fights and Shanghai walkthroughs. The game has a naturalistic, washed-out graininess to it and digital artefacts appear onscreen when you get shot. Realism is all well and good, but the problem is that despite the realistically gritty shootouts, Lynch can still miraculously self-heal after being filled with lead. IO also promises that the PC version won't be the same shonky console conversion we had last time and has a dedicated team to make sure it's right. It's going to take a lot to make it work, but hopefully they won't slip up again.

— Henry Winchester

PC User says: We hope it's an improvement on its predecessor.

LEAD AND GOLD PC

ALSO ON PS3, XBOX 360 / **WEB** www.leadandgold.com / **RELEASED** 2010

Between *Call of Juarez* and *Red Dead Redemption*, the Western shooter is making a resurgence. *Lead and Gold* is an addition to the cowboy ranks, but it's a team-based shooter. Situated somewhere between *Team Fortress 2*'s mechanics and *Left 4 Dead*'s stylings, its game mechanics are surprisingly heartening. There are four character classes: Gunslinger, Blaster, Deputy and Trapper. The Gunslinger shoots people, the Blaster blasts stuff to bits and shoots people, the Trapper sets traps and shoots people, and the Deputy tags people for shooting. A pattern is emerging: uninspired in this epoch, perhaps, but not without added novelty. One of the biggest draws is the synergy system. Each character emits a perk radius, so if you're next to a Gunslinger you'll get improved accuracy, and if you're next to a Deputy you'll get improved damage. There are five game modes, including the capture the flag and deliver-the-bomb-style Powderkeg. It also suits players new to shooters: the developers promise no insta-kills for newbies. It's shaping up to be a nicely packaged game with some polished gameplay.

First aid knows nothing of mere gravity in these parts. Hey, it's the Wild West.

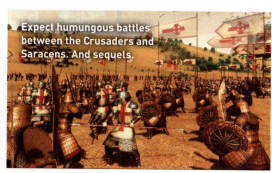
— Henry Winchester

PC User says: Expect a darn tootin' good time.

LIONHEART: KINGS' CRUSADE PC

WEB www.paradoxplaza.com / **RELEASED** 2010

Set in the Third Crusade, *Lionheart: Kings' Crusade* sees you control either the Crusaders or the Saracens. As in the history books, Richard I is on a quest to take back the Holy Lands from Saladin. Fed up with people living in the land where their God once lived, the Crusaders sent over a load of blokes to kill just about everyone. Of these, Richard the Lionheart, aka Richard I of England, was probably the most famous, and his battles with Saladin are the stuff of legend. He took over the Mediterranean in a way that's only been done by Brits abroad since. In taking this little slice of history, Neocore games has made a compelling real-time strategy. In the demo I was shown, the Crusaders' objective was to conquer a port, but rather than staging a full-frontal attack, they took a nearby village for a base for the invasion. The emphasis is on in-depth strategy, and using the landscape to defeat your opponent. The game looks wonderful, with some lovely water effects. The game could launch Neocore into the big league. The rabbit hole goes deeper, though. Rather than using an orchestra or a keyboard to record the score, Paradox Interactive's CEO, Fredrik Wester, has laid down some death metal for the soundtrack. It'll make a change from the music we usually turn off when playing such games.


Expect humungous battles between the Crusaders and Saracens. And sequels.

— Henry Winchester

PC User says: Expect big things from this strategy game.

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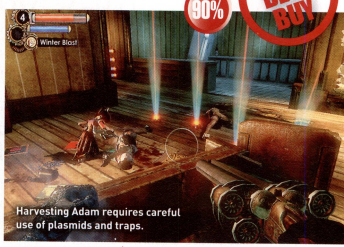
Shock to the system

The ***PC User*** **team** reviews the hottest games for PC and consoles.

BIOSHOCK 2 PC

ALSO ON PS3, XBOX 360 / **PRICE** $99.95 / **WEB** www.bioshock2game.com



Harvesting Adam requires careful use of plasmids and traps.

90%

PC USER BEST BUY

At the beginning of *BioShock 2*, one Sofia Lamb has got my bonded daughter and I've got to track her down. Lamb has jump-started Rapture again a decade after the events of the original, booting up the Big Daddies again and farming new Little Sisters from the surface world. As Subject Delta you're not too fussed about all that, but you really want your own Little Sister back. Unfortunately, she also happens to be Sofia Lamb's daughter and she's less than willing to let her go. The game is all about using your myriad abilities to mess with the various Big Daddies in your way and you've still got those moral conundrums surrounding the rescue/harvest of the little girlies bent on collecting that Adam goo. Thankfully, there's something a whole lot more satisfying about this sequel than the original. For a start, throwing you into the leaden shoes of the prototype Big Daddy lends much more weight to proceedings — you really do feel like a beefy beast. The excellent sound effects spread throughout the game, although the real hook for me is the new mechanic that surrounds the gathering of Little Sisters and their Adam. Previously, you could only rescue or harvest (read: murder) them to get the precious red goop; now you can adopt one at a time and use them to gather more Adam from specific corpses. When you drop a Little Sister down to get all surgical with the dead, Splicer hell breaks loose, so you've got to be prepared to protect your young charge. You'll find yourself taking an inordinate amount of time scouting the area, choosing your traps and plasmids before dropping her down and taking up position. There's also a veritable arsenal at your disposal outside the expected plasmids. There are many physical traps you can lay, such as electric tripwires, piercing trap rivets and my beloved sentry guns, but the plasmids are the stars of the show. Once the little ladies are bloated with goo, you're again faced with the stark choice of whether to harvest them and the contents of their bellies, or rescue them, taking less Adam in return, but feeling far less dirty for doing so. Every part of the game has been improved over the original, making it feel far more of an involving, interactive experience, rather than a film that occasionally lets you shoot things in between the exposition.

— Dave James

PC User says: What's changed in this sequel makes it so much better than the original.

MASS EFFECT 2 PC X360

PRICE $109.95 **WEB** www.masseffect.com

"Eek! It's the creature from the Black Lagoon and he's got a gun!"

95%

PC USER BEST BUY

With its second *Mass Effect* title, veteran role-playing game (RPG) developer BioWare has gone for mass appeal, creating an utterly engrossing space opera which, like all the best games, is one where you can lose yourself for hours. While BioWare has undeniably done some streamlining with *Mass Effect 2* (much to the lament of some veteran gamers), it's a much better game for it. What's primarily been ditched in the sequel is the first game's dense character, inventory and equipment micromanagement — elements that seriously slowed down the original's pace — but the combat and story have also been tightened up considerably. Combat is smoother, easier to control and more fast-paced, bringing the slightly clunky experience of the original closer to *Gears of War* (if a little more freeform). Also gone are the ponderously long-winded aliens and conversations, replaced with characters and dialogue that are well-written, succinct and to the point. The game's story structure will be familiar to anyone who's played BioWare's other recent RPG, *Dragon Age: Origins* — both largely revolve around assembling a team to tackle a looming evil threat. These recruited team members are really the heart of the game, and thankfully they're all interesting, nuanced people with their own stories and problems to be solved. *Mass Effect 2* is more grown-up in its themes and storylines, though some of the tightly clad female characters can still look a little ridiculous (the game does make light of this on occasion). While a part of us is sorry to see the detailed RPG elements and inventory/equipment management go, to be honest, *Mass Effect 2* is a better game without them. Like last year's *Uncharted 2* on PS3, this is another superbly polished title that's a hallmark of how good games can be.

— Dan Gardiner

PC User says: Slick, polished and superbly fun must-have for any action or RPG fan.

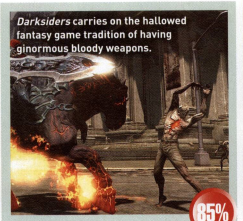
S.T.A.L.K.E.R.: CALL OF PRIPYAT PC

PRICE $69.95
WEB http://cop.stalker-game.com

A few hours into *Call of Pripyat* (CoP), and something astonishing has happened: the game hasn't crashed. For the third part of a series infamous for their bugs and glitches, that's impressive. Another shock is the start, where a gnarly man with a thick Russian accent explains exactly what's going on, and the events of the two previous games. Part of The Zone's intense draw is that you have no clue what's going on, but it's nice to have a bit of back story. CoP fixes most of the problems of the original and its undernourished sequel. The world is sparsely populated with pockets of friends and foes, which is good because you're not permanently being eaten to death or engaged in rubbish conversations. It's an awful translation again, but that's part of the charm of *S.T.A.L.K.E.R.* CoP stumbles in its opening level —you start out as Alexander Degtyaryov, a Secret Service agent disguised as a stalker. He's charged with finding out how some Secret Service research helicopters came to violent resting places. To do this, you have to ask a lot of questions and visit crash sites. Rather than having the linked open areas of *Shadow of Chernobyl*, CoP relies on you visiting and paying men to take you into the three parts of The Zone. It breaks up the freedom of the game and if you're broke, you're forced to find missions to top up your rubles. Once you complete the messy starting area, the game opens up. There are decent, intriguingly horrific side quests with twists, and The Zone feels more fleshed out when it's not just the go-there-and-shoot-that of the original. The game is probably at its best if you haven't ventured into The Zone before. It's accessible and not too infuriating: a greatest hits of the *S.T.A.L.K.E.R.* universe, if you will.

— Henry Winchester

PC User says: *Call of Pripyat* is the *S.T.A.L.K.E.R.* game we've always deserved.



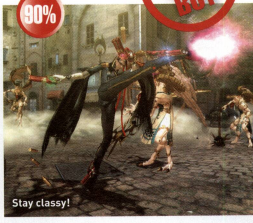
DARKSIDERS X360

ALSO ON PS3 / **PRICE** $109.95
WEB www.darksiders.com

Darksiders, from first-time developer Vigil Games, starts off with a great concept: taking place 100 years after the Biblical apocalypse, you play War, one of the Four Horsemen of the Apocalypse. War's been framed and it's your job to stalk the post-apocalypse Earth and track down those responsible for prematurely causing the rapture, taking on a variety of demons and angels along the way. *Darksiders* successfully grabs a large variety of ideas and combines them into a solidly enjoyable action title that's equal parts puzzle game and third-person beat-'em-up. Like last year's *Batman: Arkham Asylum*, *Darksiders* owes its heaviest debt to the *Zelda* and *Metroid* games — its core design philosophy is pretty much a carbon copy of what these games do best, mixing together environment-based puzzles, multi-use weapons and a wide variety of boss battles to great effect. Visually, *Darksiders* is pretty appealing, with slightly chunky and cartoonish *World of Warcraft*-style characters and monsters. The combat itself is also well done and thankfully it doesn't overtax the player with all those maddeningly complex combos — you can pretty much stick to a handful of learned moves, and the slow revealing of extra weapons helps keep things new and fresh. It's also quite good at teaching and reinforcing how to use specific combat abilities. And while *Darksiders* is perhaps not as 'out there' as *Heavy Rain* (see page 107), it's nonetheless good to see more publishers taking chances on original titles, even if they're not entirely original in terms of gameplay.

— Dan Gardiner

PC User says: A solid action title with enjoyable puzzle elements.



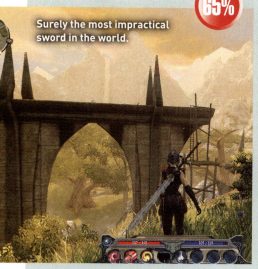
BAYONETTA X360

ALSO ON PS3 / **PRICE** $99.95
WEB www.sega-australia.com

There's a pretty rich history of incidental titillation in video games, but it's rare to see a game that takes sexualisation and runs with it as far as *Bayonetta* does without straying into dating sim territory. The game's titular (ha) heroine is a seven-foot tall barbie doll witch with guns strapped to her hands and ankles, and a skintight bodysuit woven of her own sentient hair that disappears whenever she performs anything more strenuous than a punch or kick. The game's so open and self-assured about its hubba-hubba art design that it's hard to be too embarrassed for it, and that confidence extends across the rest of the game, making for a surprisingly great title. Made by the people behind the *Devil May Cry* games, *Bayonetta* is an over-the-top third-person brawler in much the same vein, with gameplay revolving around the same fast-paced, stylish combat in gothic-lite environments. While explaining the nonsensical storyline (witches, angels, shooting and motorbikes?) is beyond us, there's a refreshingly lighter overall mood than in the *Devil* games and it's all much of a muchness in the face of excellent combat. Based around a near-limitless library of possible combos, and a system that rewards staying close to enemies by granting brief bursts of 'witch time' (slow motion) for successful last-second dodges, *Bayonetta*'s combat is very fast and fluid. And with big groups of regular enemies and immense level-size bosses being thrown around, it's an experience that's rarely dull. Level design is consistently impressive, too, with the game's opening fight taking place on a disintegrating clock tower falling down an enormous cliffside, and there's rarely a let-up across the (surprisingly numerous) subsequent levels.

— Dominik Krupinski

PC User says: While potentially embarrassing to own, *Bayonetta* is still a blast to play.



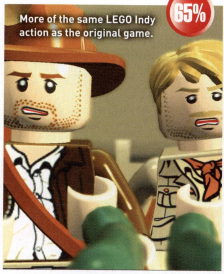
DIVINITY II: EGO DRACONIS PC

ALSO ON XBOX 360 / **PRICE** $79.95
WEB www.divinity2.com

This could have been a worthy addition to the RPG genre, despite being overshadowed by BioWare's latest epic. Unfortunately, due to poor game design and a subsequent lack of flow, *Divinity II* falls far short of the adventure romp it could have been. A game that lets you transform into a dragon, spitting gobbets of fiery doom over your assorted foes should be brilliant, but the unforgiving and imbalanced nature of the game counteracts that fantastic premise. Right from the off, it delights in killing you. It tells you to save the game as often as possible, despite the fact that there's no quicksave function set up by default. You're dropped into a traditional quest hub village to wander about picking up quests, with different paths and resolutions. As soon as you travel one step down the story arc, that disappears, dropping you into a relentless hack and slash, where the game constantly throws more enemies than your low level can handle and cheerily tells you it's game over when you die. Of course, you can run around the constrained maps slaughtering rabbits for experience points, but this incessant grinding is only justified in MMORPGs by the fact that they want to artificially extend the playing time of a subscription game. They don't have to do that in an offline title. I tried, but I came across level-capped choke points so often it rendered flowing gameplay impossible. It's a shame since there are some neat ideas in this game; but because of the shoddy design few people will bother picking it up to find out.

— Dave James

PC User says: **A promising premise with some neat ideas, but a letdown in the end.**



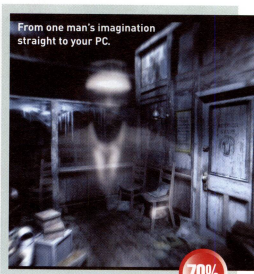
LEGO INDIANA JONES 2: THE ADVENTURE CONTINUES PC

ALSO ON Wii, DS, PSP, PS3, XBOX 360
PRICE $49.95 / **WEB** www.lucasarts.com

I don't have the epic problem some people have with *Indiana Jones and the Kingdom of the Crystal Skull*. Yes, it was bad, but it's a film for kids. The first three *Indiana Jones* films were also films for kids. Where's the issue here? The original trilogy wasn't all that good anyway: *Raiders of the Lost Ark* is half a decent film, *The Temple of Doom* is stomach-churningly racist and *The Last Crusade* was a rehash of *Raiders*. Which brings me to *LEGO Indiana Jones 2*. It's a game for kids. I'm not a kid, so if I say it's bad it probably isn't. Kids like things like *Transformers* and *Star Wars*. I like things like cars and beer. Like *LEGO Star Wars* and *LEGO Batman*, *LEGO Indiana Jones 2* is good fun plagued with problems. The biggest of those problems is that they just haven't moved on that much. We know, if it ain't broke, don't brick it — however, this is the fifth incarnation of a LEGO licence game and it hasn't moved on. There are a few new features, though. *LEGO Indiana Jones 2* has level hubs, which have no map or guide as to what you're meant to do. There's also a level editor, which will fill about five minutes of your time as you raise or lower ground, or put a spawn point next to a circular saw to watch a plastic Shia LeBeouf get eviscerated over and over again! Like the original, *LEGO Indiana Jones 2* is silly and appropriate for all ages.

— Henry Winchester

PC User says: **Pretty much the same as the original.**



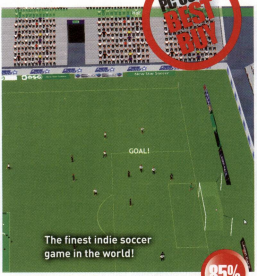
DARK FALL: LOST SOULS PC

PRICE £19.99 ONLINE
WEB www.darkfallgames.com

Jonathan Boakes is a one-man games factory who makes first-person horror adventures. I played his last game, *The Lost Crown*, and loved the uncanny atmosphere, but loathed the infuriating puzzle design. *Dark Fall: Lost Souls* is more of the same. It's the second sequel to the original *Dark Fall*, which was reasonably well received. In the latest adventure, you play a detective investigating a child's disappearance at a railway station in Dorset. It's not exactly the sixth circle of hell. Well, depending on your opinion of Dorset. However, it's a haunted, permanently moonlit place and it's incredibly atmospheric. It's all whispers and brief glances of horrific things, and the back story is superbly executed via horrifying tales. There was a moment about 20 minutes into the game where I almost fell off my chair. Forget *Dead Space* or *F.E.A.R.*'s in-your-face shocks, *Dark Fall* reveals very little and instead cranks up the tension. The puzzles still aren't quite there, but they're better than *The Lost Crown*'s bizarrely obtuse quests and they do make some sense. Level design lets it down and the four-way, screen-by-screen movement frustrates and hampers progress. Maybe Boakes should move on to a proper first-person shooter engine for his next title. I am impressed by Boakes, though. The fact that he sits alone and indulges the dark spaces of his imagination and then churns out a game makes him almost an auteur of adventure games. This is a flawed game, but it's getting better.

— Henry Winchester

PC User says: **The level design needs work, but it's full of atmospheric horror.**



NEW STAR SOCCER 2010 PC

PRICE US$24.99 DOWNLOAD
WEB www.newstargames.com

The finest indie soccer game is back with a seasonal update, and the best bit is if you're an existing *New Star Soccer 4* player then you can get the new, full 2010 version for gratis. To be fair, there's not a whole lot that's obviously new in the update, aside from an online leaderboard, instant tweets and some database updates. There's an improved match camera, but the key in-game improvement is the tightened up match AI. For a game where the computer controls every single player on the pitch bar one, that's a necessity. The game as a whole has been tweaked and tightened up, but this is definitely an update, not a brand-new game. That's a good thing, as the original NSS4 was a brilliantly in-depth simulation of the life of a fictional soccer player. The depth stretched not only to the training pitch, but right into the player's personal life, as you have to juggle commitments to family, friends and girlfriends, as well as your teammates and your boss. It's a hugely satisfying game. You start off as an unknown 16-year-old, with limited skill and huge potential. After each match and training session, you can improve your stats and these make a huge difference in-game. It's a great mixture and this update is a definite improvement. Last time out we urged you to support your indie developers; this time around, though, you should just buy it because it's a great game.

— Dave James

PC User says: **A great soccer game from an indie developer.**

EVE ONLINE: DOMINION PC

PRICE €14.95 PLUS €5 ACTIVATION FEE
WEB www.eveonline.com

Ever since *Dominion* was announced, the *EVE Online* player base has eagerly awaited its release and at last the 12th expansion to CCP's six-year-old MMO is here. Dominion has sought to change the way sovereignty works. Previously, the only real cost was fuel for the player-owned starbases (POS) towers, and this was countered by the fountains of InterStellar Kredits (ISK) generated by moon mining. Now, each system will cost you. The second part of the *Dominion* equation is to devalue the rarer moons, reducing passive income. The influence map shows that the large alliances have already started to forfeit space in order to concentrate on systems of strategic value. Small alliances have been able to claim systems for the first time. There are still problems, though. The infrastructure hub, needed to upgrade your space so you can start to earn money, is so large it needs a freighter to transport it. While this is easy for large alliances with their networks of jump bridges, it's almost impossible for the little guy. Secondly, the large alliances still have their massive cap fleets and will use them to crush their rivals. EVE looks more gorgeous than ever, thanks to stunning planetary textures and a new starfield. The fleet-finder tool is a welcome addition and the in-game mail system gets an overhaul. It's too early to see how the changes will play out, but early indications are promising. It may not be the lure CCP hoped for, but it's changing the balance of power, and that's a good thing.

— Simon Pickstock

PC User says: **There's plenty to love about the new expansion.**

HEAVY RAIN PS3

PRICE $109.95
WEB www.heavyrainps3.com

Sony's much-hyped PS3 exclusive is a taut, noiresque adventure thriller where you guide a cast of characters as they attempt to track down and stop the Origami Killer, a child serial murderer operating in a New York-like US city. Right from the start, *Heavy Rain* is a game that defies easy categorisation, mixing great-looking cinematic storytelling with a unique control method. Generally played from the third person, the gameplay changes frequently, ranging from playing with one character's kids to searching a crime scene for evidence. Instructions on how to interact with the environment are placed onscreen in neat boxes. Your use of the controller varies widely, from simple, slow actions for exploration and discovery, to frantic, rapid button-pressing for action sequences (also known as quicktime events or QTEs). In other games, QTEs are criticised as being cheap, frustrating gameplay devices, but *Heavy Rain*'s QTEs achieve what they're meant to: increasing the intensity, emotional involvement and sense of risk of each scene. In a storytelling sense, it's engaging (despite some occasionally uneven English voice work from the mostly French cast) and it's unique in that your characters can die if you make too many mistakes and the story continues without them. After you've finished the game, it's fascinating to replay critical moments in the story to discover how things play out differently thereafter. Consider this a must-play if you're a PS3 owner — despite the odd controls, it's a thrilling, absorbing experience and there really is nothing quite like it.

— Dan Gardiner

PC User says: **A unique and intense noir thriller — pick it up if you own a PS3.**

Your perfect PC

Darren Yates selects the best-value PC specifications for your needs using his new PerfectPC 2.0 software.

It's been a while coming, but it's finally here — you'll find the first Beta of our PerfectPC 2.0 software on this month's cover disc. If you're not familiar with the software, PerfectPC allows you to spec your own desktop PC build, based on your desired applications and budget. Version 2.0 adds some oft-requested features including the ability to lock in particular components plus the ability to choose your own specs.

The original version of PerfectPC had a database of around 150 components: motherboards, hard drives, processors and the like. The database for PerfectPC 2.0 includes over 1,000 different components, which not only gives you more to choose from, but also millions of extra combinations for getting the exact system you're after.

Requirements & bugs

PerfectPC 2.0 Beta will run on any PC or notebook with Windows 2000, XP, Vista or 7. You'll need an internet connection to update the database. For the most part, PerfectPC 2.0 Beta works well, but we can't guarantee that it's completely bug-free — that's why it's a Beta. The version on the cover disc is Build 194 and one known bug we've found is that locking in an operating system choice doesn't update correctly. It works if PerfectPC chooses the operating system, but not if you choose it. If you find a bug, you can help improve PerfectPC by letting us know. Email us at **pcuser@acpmagazines.com.au**.

_HOW TO USE IT

You use this new version the same way as the original PerfectPC: select an application and preferred processor and now a graphics card vendor; grab the slider and choose a budget. PerfectPC 2.0 will serve up the best specs it can build from the database. The software won't just give you a fixed system build — it's dynamically building the specification based on our selection algorithm, aiming to build the most feature-rich system for the price. The difference now is that you can lock down a particular component and choose your own.

After you fire it up, you'll see two series of checkboxes down the side of the component type list with the headings Lock and Inc. By default, the Inc boxes are checked, the Lock ones aren't. Basically, this tells PerfectPC to include all component types in the system build and not to lock in any component choices for the moment. Every component type now features a drop-down box. Once you move the slider across to your preferred budget, PerfectPC 2.0 should build a pretty decent system to match it.

_LOCK IT IN

This is the feature readers have asked for most. You can modify any part of the build by clicking on the down arrow to the right of that component type's entry and choosing your own option. Once you make a choice, the price tag on the far right will go red to indicate you've made a change. To lock in the change, tick the Lock checkbox on the left for that component. PerfectPC 2.0 will not only lock in the component, but it will also update the rest of the system build to account for your change.

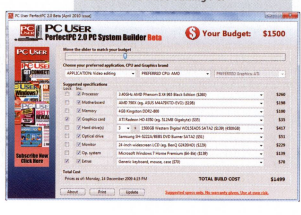
You can then move the budget slider around and your locked component will stay fixed while the rest of the system moves around it. If you unlock the component (by unchecking its Lock box), PerfectPC will automatically choose the best component of that type it can, depending on your budget and any other locked components you may have chosen.

_PROCESSORS & MOTHERBOARDS

One area affected by locking in a component is when you're choosing processors and motherboards. If you lock in a processor, PerfectPC 2.0 will ensure the motherboard it chooses is a compatible type. For example, if you lock in a Core i5 750 processor, it will only select LGA1156-based motherboards as you adjust the budget slider. What PerfectPC won't do is stop you locking in the wrong type, so you could lock in an LGA775 motherboard to that processor, which isn't a great idea. Obviously, a processor needs a compatible motherboard, so we recommend you avoid locking in both a motherboard and processor unless you're sure they're compatible.

This is an area where we've got a bit more work to do, so expect to see some changes here in the next few months.

We've locked in the graphics card for this video editing PC.



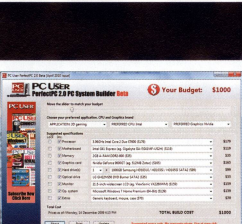
_COMPONENT TYPES

If you're not after a complete system, but rather an upgrade, you can drop component types by checking off the Inc box next to a component type. What happens is that component type is greyed out and PerfectPC 2.0 doesn't allocate any of your budget to it. However, the thing to remember is that the more components you drop off, the harder it will be for PerfectPC to hit your budget dead on. What you're doing is reducing the pool of components it can choose from, which gives PerfectPC less of a choice. If you only want to upgrade an existing system, though, you won't need to include things you don't need.

_SYSTEMS FOR $1,500

For its first run, we thought we'd get PerfectPC 2.0 to take a look at what you can get for $1,500. We're using the built-in database dated December 14, 2009, but you can update it by simply clicking on the Update button.

✻ **3D gaming.** For 3D gaming on Intel hardware, PerfectPC goes straight for the Core i5 750 processor and an MSI P55 Express-chipset motherboard. It combines



Even if your budget only stretches to $1,000, PerfectPC 2.0 can build you a gaming PC.

MSI Wind12 U200

$899 / MSI
(02) 9748 0070
http://au.msi.com

This 12.1in CULV notebook delivered 60% better performance than Atom-based netbooks in our tests. It features a 1.2GHz Intel Celeron ULV 723 CPU, 2GB of RAM and a 320GB hard drive, along with a six-cell 5,200mAh Lithium Ion battery. Its impressive peripheral features include Bluetooth, Wi-Fi and HDMI output.

rating **90%**

APC Solutions for Every Level of Protection

For 20 years, we have pioneered power protection technology. Our Legendary Reliability® enables you to save your data, protect your hardware, and prevent downtime.

Home $179.99*
Back-UPS® BS550G
Best value battery backup and surge protection for home computers.
*8 outlets, DSL protection, 44 minutes of runtime***

Home Office
$229.99*
Back-UPS® ES700G
Complete protection for home and small business computers.
*8 outlets, DSL protection, 58 minutes of runtime***

Small Business
$1150.00*
Smart-UPS® 1000
High-performance network power protection with best-in-class manageability for servers.

APC by Schneider Electric

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*Recommended Retail Price. **Runtimes may vary depending on load.

NOTEBOOKS

Product	Review issue	Key specs	PC User says	Value rating
HP Pavilion dv7-3008TX $2,399 *www.hp.com.au*	March 2010	1.73GHz Intel Core i7-820QM, 4GB RAM, 2 x 500GB HDD, 17.3in widescreen LCD	"Heavy, but it's loaded with features and goes like the clappers!"	90%
HP ProBook 5310m $1,599 *www.hp.com.au*	March 2010	2.26GHz Intel Core 2 Duo P9300, 2GB RAM, 320GB HDD, 13.3in widescreen LCD	"Offers good performance, long battery life and low weight."	90%
MSI Wind12 U200 $899 *http://au.msi.com*	March 2010	1.3GHz Intel Pentium SU4100, 2GB RAM, 320GB HDD, 12.1in widescreen LCD	"One of the best-value ultraportable notebooks you'll find.	90%
Acer Extensa 5635 $999 *www.acer.com.au*	March 2010	2.2GHz Intel Core 2 Duo T6670, 2GB RAM, 320GB HDD, 15.6in widescreen LCD	"This one's a great performer with good battery life under $1,000."	85%
HP Pavilion dm1-1007tu $899 *www.hp.com.au*	March 2010	1.3GHz Intel Pentium SU4100, 2GB RAM, 250GB HDD, 11.6in widescreen LCD	"If you can't find the U200, buy this instead."	85%
HP ProBook 4310s $1,499 *www.hp.com.au*	March 2010	2.1GHz Intel Core 2 Duo T6570, 2GB RAM, 250GB HDD, 13.3in widescreen LCD	"Who needs CULV when you can get 5 hours from a standard notebook?"	85%
ASUS UL50VT $1,499 *www.asus.com.au*	February 2010	1.3GHz Intel Core 2 Duo SU7300 overclocked to 1.73GHz, 4GB RAM, 320GB HDD, 15.6in widescreen LCD	"A factory-overclocked notebook? You bet, and wait until you see the battery life!"	85%
BenQ Joybook Lite U121 Eco $580 *www.benq.com.au*	February 2010	1.6GHz Intel Atom Z530, 1GB RAM, 160GB HDD, 11.6in widescreen LCD	"It's not going to trouble the scoreboard for speed, but we'll take the six-hour battery life."	85%
HP ProBook 4710s $1,699 *www.hp.com.au*	February 2010	2.53GHz Intel Core 2 Duo P8700, 4GB RAM, 320GB HDD, 17.3in widescreen LCD	"It shows business notebooks can deliver better value than consumer models."	85%
Pioneer DreamBook Light T11 Ultra Slim $799 *www.pioneer.net.au*	January 2010	1.5GHz AMD Sempron U210, 2GB RAM, 160GB HDD, 13.3in widescreen LCD	"You won't find a faster, better-featured, lightweight notebook at this price."	85%
HP Pavilion dv3-2137tx $1,699 *www.hp.com.au*	December 2009	2.53GHz Intel Core 2 Duo P8700, 2GB RAM, 500GB HDD, 13.4in widescreen LED	"A great combination of speed, features and price, all in a compact notebook."	85%
Acer Aspire 5935G $2,599 *www.acer.com.au*	November 2009	2.53GHz Intel Core 2 Duo P8700, 4GB RAM, 500GB HDD, 15.6in widescreen LCD	"A very decent performer, with tons of features at a good price."	85%

PCs

Product	Review issue	Key specs	PC User says	Value rating
Excel Computers Excel AL-530 $999 *www.excelcomputers.com.au*	February 2010	2.6GHz Intel Pentium Dual-Core E5300, 2 x 808.8GB HDD, 2GB RAM	"This PC isn't a gamer's paradise, but for home theatre you won't find better under $1,000."	90%
BenQ nScreen i91 $899 *www.benq.com.au*	February 2010	1.6GHz AMD Sempron U210, 160GB HDD, 1GB RAM	"Not blindingly quick, but this is the best nettop we've seen so far."	85%
Pacstar Australia Xmas i5 $1,499 *www. pacstarcomputer.com.au*	January 2010	2.66GHz Intel Core i5 750 overclocked to 3.6GHz, 2 x 1,000GB HDD, 2GB RAM	"Lots of speed and features epitomise what we consider to be the best value."	95%
TI Computers TI Deluxe 750 $1,499 *www.ticomputers.com.au*	January 2010	2.66GHz Intel Core i5 750 overclocked to 3.46GHz, 2 x 1,000GB HDD, 4GB RAM	"The best combination of CPU and graphics speed we've seen in a $1,500 PC."	85%
Pacstar Australia Value Pack 1500 $1,499 *www.pacstarcomputer.com.au*	October 2009	3.16GHz Intel Core 2 Duo E8500, 2 x 1,000GB HDD, 2GB RAM	"Heaps of features as well as decent performance."	90%
PC eXpress Invader 507B2 $1,999 *www.pc-express.com.au*	August 2009	3.33GHz Intel Core 2 Duo E8600 (overclocked to 4GHz), 2 x 1,000GB HDD, 2GB RAM	"One of the best all-round value PCs we've seen."	95%
Excel Computers Excel AL-2000 $1,999 *www.excelcomputers.com.au*	August 2009	3.16GHz Intel Core 2 Duo E8500, 2 x 1,000GB HDD, 2GB RAM	"A do-just-about-everything PC with excellent gaming speed."	85%
Pacstar Australia Bluestar 2009 $1,999 www. pacstarcomputer.com.au	August 2009	3.16GHz Intel Core 2 Duo E8500, 2 x 1,500GB HDD, 2GB RAM	"It may not be built for speed, but it's about as comfy as computing can get."	85%
TI Computers Extreme Power 2000 (Overclock Edition) $1,999 *www.ticomputers.com.au*	August 2009	2.66GHz Intel Core i7 920 (overclocked to 4GHz), 2 x 500GB HDD, 3GB RAM	"The fastest air-cooled PC we've ever seen."	85%
Excel Computers Excel AL-250 $1,499 *www.excelcomputers.com.au*	July 2009	Intel Core 2 Duo E8400 3GHz, 2 x 750GB HDD, 2GB RAM	"For $1,499, this one delivers a very decent slice of everything."	85%

HOME ENTERTAINMENT

Product	Review issue	Key specs	PC User says	Value rating
Sony BDPS760 $629 *www.sony.com.au*	March 2010	Blu-ray player	"A great player, albeit with a high asking price."	**90%**
Western Digital WD TV Live $185 *www.wdc.com*	February 2010	Media playback device	"The best bang-for-buck HD media player out there, bar none."	**95%**
iRiver B30 $230 *www.iriver.com.au*	February 2010	Digital audio broadcast radio	"An excellent DAB radio and the best choice when it comes to portability."	**90%**
Cakewalk SONAR V-Studio 100 $1,495 *www.cakewalk.com*	January 2010	Audio recording and mixing control device	"Recommended for anyone building a recording studio around their PC."	**95%**
Seagate FreeAgent Theater+ $220 *www.seagate.com*	January 2010	Network media player	"A great all-purpose media player, but not quite as portable as the WD TV Live."	**90%**
Logitech Z323 $130 *www.logitech.com*	November 2009	2.1 speaker set	"A unique design that would serve well anyone playing to both the front and the back of the house."	**90%**
Pure One Elite $250 *www.pure.com/au*	November 2009	Digital audio broadcast radio	"Simple controls, pausing radio and good quality at a great price."	**90%**
HDX 1000B $350 *www.hdx1080.com*	October 2009	Network media player with HDMI, component and composite outputs, and S/PDIF audio out	"Gets almost everything right, but there are a few quirks."	**90%**
iSTAR HD $399 *www.istar.com.au*	October 2009	Network media player with HDMI and composite outputs, 5.1-channel analogue and S/PDIF audio out	"Excellent all round, if a little pricey."	**90%**
Kogan Blu-ray Player BD 2.0 $269 *www.kogan.com.au*	October 2009	Blu-ray player with BD-Live compatibility	"A cheap yet feature-packed Blu-ray player."	**90%**
QNAP NMP-1000 $550 *www.qnap.com*	October 2009	Network media player with HDMI, component, S-Video and composite outputs, and S/PDIF audio out	"A NAS device and media player, and a very well built one at that."	**90%**

SOFTWARE

Product	Review issue	Key specs	PC User says	Value rating
Adobe Photoshop Elements 8 $157.11 *www.adobe.com/ap*	March 2010	Image editing program	"A great upgrade to a fantastic program."	**95%**
ArcSoft PhotoStudio 6 US$79.99 *www.arcsoft.com*	March 2010	Image editing program	"Offers many of the features of the commercial apps at a fraction of the price."	**90%**
Corel Paint Shop Pro Photo X2 Ultimate $199.95 *www.corel.com*	March 2010	Image editing program	"A good all-rounder with a couple of unique features."	**90%**
Magix Movie Edit Pro 15 Plus $169.95 *www.magix.com*	February 2010	Video editing program	"A great video editor for a great price."	**95%**
MasterWriter 2.0 US$299 *www3.masterwriter.com*	February 2010	Song lyric writing program	"A simple, elegant program that's a great resource for lyricists."	**95%**
Microsoft Expression Web 3 $230 *www.microsoft.com.au*	February 2010	Web design software	"Offers much of Dreamweaver's power, with a friendlier interface and at a much friendlier price."	**95%**
Xara Xtreme Pro $349 *www.xara.com*	February 2010	Illustration software	"A fast, fun and very affordable designer's tool."	**95%**
Notepad++ 5.5.1 Free *http://notepad-plus.sourceforge.net*	February 2010	Notepad replacement software	"An excellent free notepad replacement, especially for programmers."	**90%**
StoryView 2 US$199.95 *www.screenplay.com*	February 2010	Screenplay organisation program	"A dedicated story structure overview tool."	**90%**
Cakewalk SONAR Home Studio 7 Standard, $199; XL, $299 *www.cakewalk.com*	January 2010	Music production software	"A great all-rounder and good starting point for anyone serious about studio-style music production."	**90%**
FL Studio 9 $149 *www.flstudio.com*	January 2010	Music Looping software	"A very versatile and powerful program aimed at techno producers and DJs."	**90%**
Propellerhead Record $399 *www.propellerheads.se*	January 2010	Music recording software	"Ideal for the performing musician who wants something quick and powerful."	**90%**
Steinberg Cubase Essential 5 $240 *www.steinberg.net*	January 2010	Music production software	"A good tool to start with for those looking to graduate to Cubase."	**90%**

Western Digital WD TV Live

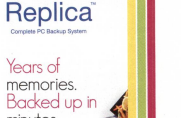
$185 / www.wdc.com

Awarded 2009's Product of the Year, this do-all media playback device will let you play your PC audio, video and image files on your TV. It's a breeze to set up and use, and has two USB ports, as well as HDMI, component and composite outputs.

rating 95%

Replica™
Complete PC Backup System

Years of memories. Backed up in minutes.



Backing up has never been easier! Protect all your precious data in one simple step.

Just connect, no installation or configuration. Available in Single PC and Multi-PC version for homes with two or more computers. Each PC's data are kept separated, so you never have to worry about recovering your data after a computer crash or virus.

Distributors
Synnex Australia 1300 100 100
www.synnex.com.au
Ingram Micro Australia 1300 651 124
www.ingrammicro.com.au

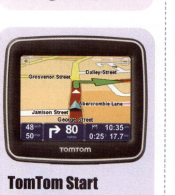
www.seagate.com Seagate

Samsung ST1000

$450 / SAMSUNG
1300 362 603
www.samsung.com/au

This camera comes with Wi-Fi networking, GPS for geotagging and Bluetooth, in addition to taking good-quality 12.1MP images. It even captures 1,280 x 720-pixel/30fps video in H.264 mode. It's also one of the new all-screen/no-button touch control units.

rating 85%



TomTom Start

$190 / TOMTOM
1300 135 604
www.tomtom.com

For under $200, this GPS is surprisingly capable and compact, with a simplified interface. The screen mount has been improved, so it locks into place more securely than other models. As you'd expect, there's no Bluetooth or advanced features here, but it would be a great choice for a first GPS.

rating 85%

LCD MONITORS

Product	Review issue	Key specs	PC User says	Value rating
BenQ G2420HD $245 *www.benq.com.au*	March 2010	24in widescreen LCD monitor	"Consistently impressive performance at a keen price."	90%
AOC 2434Pw $245 *www.aocmonitor-anz.com*	February 2010	23.6in widescreen LCD monitor	"A wallet-friendly 23.6in LCD that offers decent quality."	85%
BenQ E2420HD $320 *www.benq.com.au*	February 2010	24in widescreen LCD monitor	"A great do-all 24in LCD, with great colour and natural tones."	85%
Dell 2209WA $320 *www.dell.com.au*	July 2009	22in widescreen LCD monitor	"Exceptional colour quality and loads of extras."	90%

BIG-SCREEN TVs

Product	Review issue	Key specs	PC User says	Value rating
Panasonic Viera TH-P42S10A $1,590 *www.panasonic.com.au*	February 2010	42in plasma television	"If you've got about $1,600 to spend, look here first."	90%
Panasonic Viera TH-P50G10A $2,000 *www.panasonic.com.au*	February 2010	50in plasma television	"If you can get it at this price, you won't be disappointed."	90%
LG 32LH35FD $850 *www.lge.com/au*	February 2010	32in LCD television	"A no-nonsense 32in full HD LCD TV at a bargain price."	85%
Panasonic Viera TH-L32G10A $1,396 *www.panasonic.com.au*	February 2010	32in LCD television	"This model has excellent image quality and colour, plus built-in AVCHD playback."	85%
Panasonic Viera TH-46S10A $1,799 *www.panasonic.com.au*	February 2010	46in plasma television	"This model is a nicely priced plasma that delivers well on value."	85%
Panasonic Viera TH-P50S10A $1,940 *www.panasonic.com.au*	February 2010	50in plasma television	"It's hard to beat a 50in full HD plasma TV for under $2,000."	85%
Samsung PS50B550 $1,900 *www.samsung.com/au*	February 2010	50in plasma television	"A basic plasma with decent image quality and a nice price."	85%

IN-CAR TECH

Product	Review issue	Key specs	PC User says	Value rating
TomTom Start $190 *www.tomtom.com*	March 2010	GPS device	"Compact and easy to use and attach — great if you're after a simple GPS."	85%
Navman My500XT $580 *www.navman.com*	December 2009	GPS device	"A first-rate GPS offering."	90%
Belkin TuneBase FM with Hands-Free $140 *www.belkin.com/anz*	September 2009	iPod FM transmitter	"A solid and versatile kit at a surprisingly low price."	90%
BlueAnt S1 $100 *www.blueant.com.au*	September 2009	Bluetooth car kit	"Truly excellent value for such a budget price."	90%
Motorola MOTOROKR T505 $115 *www.motorola.com.au*	September 2009	Bluetooth car kit	"The T505 is a good combo for hands-free Bluetooth and MP3 playback."	90%

KIDS' HARDWARE & SOFTWARE

Product	Review issue	Key specs	PC User says	Value rating
EdAlive Ultimate Maths Invaders $49.95 *www.edalive.com*	March 2010	Maths learning software	"A great tool that will engage reluctant mathematicians."	90%
Free virtual world for kids Free *www2.shidonni.com*	December 2009	Interactive creativity web site for children	"A refreshing new concept where kids can explore their creativity safely online."	95%
LeapFrog My Pal Scout $49.95 *www.funtastic.com.au*	December 2009	Plush activity toy for children aged six months to three years	"A personalised learning experience for the very young."	90%
Intrepica $19 per month per child *www.intrepica.com.au*	November 2009	Online literacy program for children aged three years and up	"Provides quality learning in a fun and social environment."	95%
LeapFrog Tag Junior $79.95 *www.funtastic.com.au*	November 2009	Reading learning toy	"A great way to introduce very young children to reading."	90%

PC COMPONENTS

Product	Review issue	Key specs	PC User says	Value rating
Enermax Revolution85+ (ERV1056EWT) $320 *www.enermax.com*	March 2010	1,050W power supply unit	"Ideal for multi-card gaming, but it's pretty much overkill otherwise."	**85%**
Intel Core i5 750 $260 *www.intel.com/au*	February 2010	2.66GHz Intel quad-core processor	"The best-value performance CPU on the market."	**100%**
ATI Radeon HD 4850 $140 *www.amd.com*	February 2010	Budget ATI GPU	"Dirt cheap for the performance on offer."	**90%**
ATI Radeon HD 4870 $200 *www.amd.com*	February 2010	Mid-range ATI GPU	"An excellent, affordable choice for 1,920 x 1,200-pixel gaming."	**90%**
Gigabyte GA-MA785GM-US2H $100 *www.gigabyte.com.au*	February 2010	AMD motherboard	"Everything you'd want in a board as compact in size as in price."	**90%**
Gigabyte GA-P55-UD3 $150 *www.gigabyte.com.au*	February 2010	Intel motherboard	"An excellent-value budget motherboard."	**90%**
Thermaltake Litepower 700 $120 *www.thermaltake.com.au*	February 2010	700W PSU	"A good-value unit that does all the basics."	**85%**
MSI P45 Neo3-FIR $125 *http://au.msi.com*	February 2010	Intel motherboard	"A fast, no-nonsense board with RAID, FireWire and a nice price."	**85%**
Nvidia GeForce GTS 250 512MB, $190; 1GB, $200 *www.nvidia.com*	December 2009	Budget Nvidia GPU	"The cheapest option for 1,920 x 1,200 gaming."	**90%**

PORTABLE MEDIA PLAYERS

Product	Review issue	Key specs	PC User says	Value rating
Apple iPod Nano 5G 8GB, $199 *www.apple.com/au*	February 2010	Hard drive-based video and audio player	"A terrific interface and decent features make it hard to beat."	**90%**
Sony NWZB143F 4GB, $95 *www.sony.com.au*	February 2010	Flash-based audio player	"More features, longer battery life and a lower price than the iPod Shuffle."	**85%**
Sony NWZE443 4GB, $120 *www.sony.com.au*	January 2010	Flash-based video and audio player	"Arguably the best portable media player under $150."	**90%**

GAMES

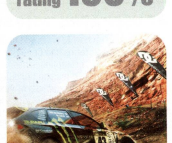
Product	Review issue	Key specs	PC User says	Value rating
WWE SmackDown vs RAW 2010 $109.95 *www.smackdownvsraw.com*	March 2010	Wrestling game for DS, Wii, PC, PS3, PSP and Xbox 360	"It's the best and deepest *SmackDown* game in years."	**90%**
Tales of Monkey Island US$34.95 download *www.telltalegames.com*	March 2010	Adventure game for PC and Wii	"A fine continuation of a legendary voyage we hope continues soon."	**85%**
The Sims 3 World Adventures $59.95 *www.sims3.com*	March 2010	Simulation game for PC	"It's well worth the price in entertainment value."	**85%**
Colin McRae DiRT 2 $109.95 *www.dirt2game.com*	February 2010	Rally driving game for PC, PS3 and Xbox 360	"The year's best racing game and a must-have for racing fans."	**90%**
Machinarium US$20 *www.machinarium.net*	February 2010	Puzzle game for PC	"A charming puzzle game with amazing attention to detail."	**90%**
Pro Evolution Soccer 2010 $69.95 *www.konami-pes2010.com*	February 2010	Soccer game for Wii, PC, PS2, PS3, PSP and Xbox 360	"The king is back on top, on the modding-friendly PC at least."	**90%**
Assassin's Creed 2 $109.95 *www.assassinscreed.com*	February 2010	Action game for PC, PS3 and Xbox 360	"A solid follow-up that irons out many of the original's flaws."	**85%**
Call of Duty: Modern Warfare 2 $99.95 *www.modernwarfare2.com*	February 2010	First-person shooter for PC, PS3 and Xbox 360	"The best console FPS of 2009, but the PC multiplayer could be better."	**85%**
Dragon Age: Origins $109.95 *http://dragonage.bioware.com*	January 2010	Role-playing game for PC, PS3 and Xbox 360	"An epic fantasy RPG that's a triumphant return for BioWare."	**90%**
Grand Theft Auto: Episodes from Liberty City $109.95 *www.rockstargames.com*	January 2010	Action game for Xbox 360	"A great-value pack that allows GTZ IV to go out with a bang."	**90%**
Mini Ninjas $49.95 *www.minininjas.com*	January 2010	Fighting game for DS, Wii, PC, PS3 and Xbox 360	"A simple game that's an absolute pleasure to play."	**90%**
The Beatles: Rock Band $79.95 *www.thebeatlesrockband.com*	January 2010	Music game for Wii, PS3 and Xbox 360	"The new standard for music games is right here — and it's well worth your money."	**90%**

Intel Core i5 750

$260 / INTEL
1300 363 018
www.intel.com/au

This quad-core processor uses the new LGA1156 platform, requiring a motherboard upgrade. The Turbo mode overclocks the chip substantially, but even at stock speeds, it was well ahead of the 3.16GHz Core 2 Duo E8500 and Phenom II X4 955.

rating **100%**



Colin McRae DiRT 2

$109.95 / PC, PS3, XBOX 360
www.dirt2game.com

The latest instalment in this rally driving series is a gripping, intense racing experience from start to finish. There are six difficulty levels, although the largely off-road nature of the game means it requires more driving finesse than track-based racers. There is a variety of events you can participate in, with no complicated upgrades or car tuning to grapple with.

rating **90%**

Western Digital My Passport Essential 500GB

$175 / www.wdc.com

This portable USB hard drive is compact, light and elegant in looks, and acts like a prestige product. It comes with built-in hardware encryption and easy-to-use backup software. Its performance was on par with other USB hard drives, where the USB connection was a limiting factor, rather than the drive itself.

rating 90%

STORAGE

Product	Review issue	Key specs	PC User says	Value rating
Western Digital My Passport Essential 500GB $175 *www.wdc.com*	February 2010	External hard drive	"A great-looking portable drive with encryption and very good software."	90%
QNAP TS-439 Pro Turbo NAS $1,350 *www.qnap.com*	June 2009	Four-bay network-attached storage device	"Everything you could ask for in a four-port NAS."	95%
Pioneer DVR-216BK $35 *www.pioneer.com.au*	May 2009	SATA 20x DVD burner	"The best overspeed burning drive we've seen, and what a price!"	95%
APACER Handy Steno AH421 16GB $85 *www.apacer.com*	May 2009	USB flash drive	"A good design and excellent performance at a nice price."	90%
Buffalo DriveStation Combo 4 HD-H5500Q 500GB $249 *www.buffalo-asia.com*	May 2009	External eSATA hard drive	"Great performance, thanks to eSATA and FireWire 800, as well as excellent software."	90%
LaCie Rugged Hard Disk 500GB $325 *www.lacie.com.au*	May 2009	Rugged external hard drive	"Fast, flexible, durable and reliable, but ugly and a tad expensive."	90%

MOBILE PHONES

Product	Review issue	Key specs	PC User says	Value rating
Apple iPhone 3GS 16GB, $879; 32GB, $1,040 *www.apple.com/au*	February 2010	Touchscreen multimedia phone	"The new features work well and the faster CPU enhances usability."	90%
BlackBerry Bold 9700 Price varies *http://au.blackberry.com*	February 2010	Business smartphone	"This is the pick of the BlackBerry crop, as long as you don't mind the smaller screen."	85%
Samsung i8910 HD ICON $950 *www.samsung.com.au*	December 2009	Touchscreen multimedia phone	"An awesome phone for multimedia junkies."	90%
HTC Magic $850 *www.htc.com/au*	September 2009	Touchscreen multimedia phone	"A very solid smartphone contender."	85%
Nokia 5800 XpressMusic $979 *www.nokia.com.au*	July 2009	Touchscreen multimedia phone	"A generous music offering and good touchscreen make this one a winner."	95%

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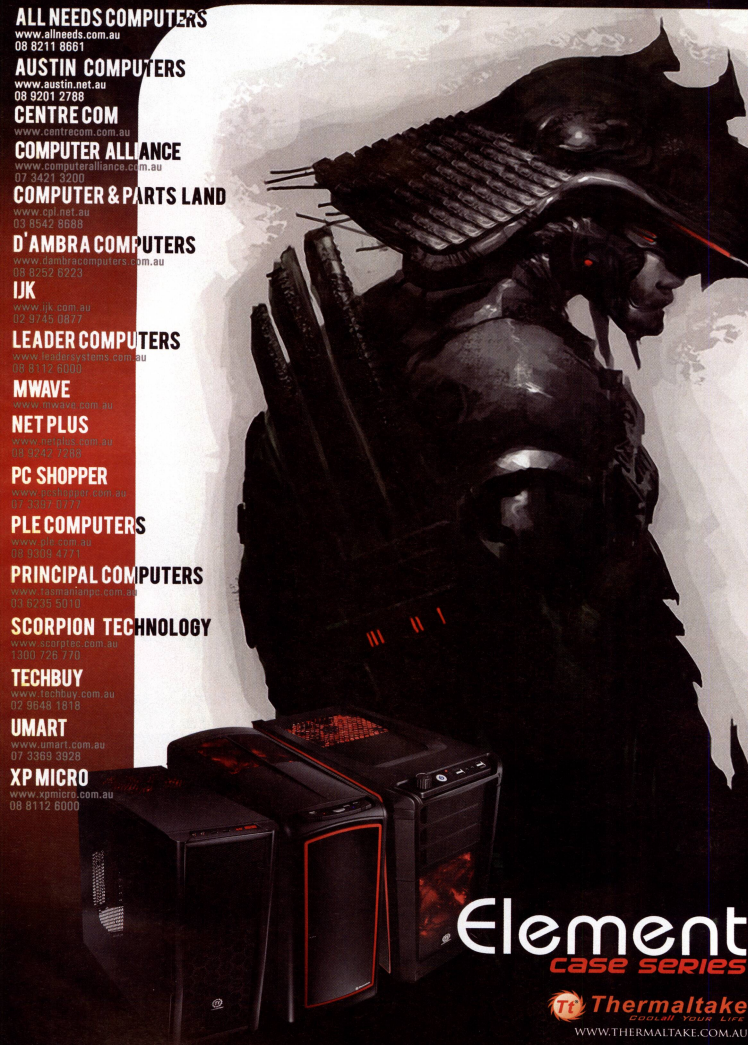

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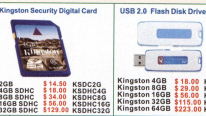

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Model	Genuine	TONNY
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AL-C900/1900BK	$102.00	$ 65.00
AL-C900/1900C/M/Y	$220.00	$ 65.00
AL-CX11N/C1100BK	$107.00	$ 39.00
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AL-C1000/2000BK	$124.00	$ 99.00
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Model	Genuine	TONNY
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KX-FA134	$82.00	$35 Twin Pack
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Model	Genuine	TONNY
Optra E/E+	$ 142.00	$ 59.00
E120 prebate	$ 115.00	$ 55.00
E210	$ 162.00	$ 49.00
X215	$ 119.00	$ 49.00
E220 prebate	$ 135.00	$ 79.00

Model	Genuine	TONNY
E230/232/330/332	$ 129.00	$ 55.00
E310/312 (3k)	$ 185.00	$ 73.00
E320/322 (3k)	$ 162.00	$ 82.00
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T038	$20.00	$ 5.00
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T0461	$22.00	$ 4.50
T0472/3/4	$14.90	$ 4.50
T0491/2/3	$21.00	$ 4.50
T0494/5/6	$21.00	$ 4.50
T0621	$22.00	$ 5.20
T0631	$16.00	$ 5.20
T0632/3/4	$15.20	$ 5.20
73N BK (T0731)	$17.00	$ 7.40
73N C/M/Y (T0732/3/4)	$17.00	$ 5.40
81N BK (T0811)	$27.00	$ 8.40
81N C/M/Y (T0812/3/4/5/6)	$27.00	$ 8.40
S020089 / T052	$35.10	$ 4.80
S020093/ T050	$29.00	$ 4.80
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S020191 / T052	$34.00	$ 4.80

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Model	Genuine	TONNY
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PG-40	$34.00	$26.00
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BCI-6C/M/Y	$24.10	$ 5.70
CLI-6PC/PM	$24.10	$ 5.70
BCI-6G/R	$24.10	$ 5.70
CLI-8BK/pc/pm with chip	$22.50	$ 8.90
CLI-8C/M/Y with chip	$22.50	$ 8.90
PGI-5BK with chip	$22.50	$ 8.90
CLI-8BK no chip	-	$ 5.70
CLI-8C/M/Y no chip	-	$ 5.70
CLI-8PC/PM no chip	-	$ 5.70
PGI-5BK no chip	-	$ 5.70
BCI-15BK	$24.90	$ 6.70
BCI-16C	$40.70	$ 6.30
PG-510	$24.10	-
CL-511	$27.40	-
PGI520BK	$19.30	$ 8.90 NEW
CLI521BK/C/M/Y/GY	$19.30	$ 8.90 NEW
BCI-24BK	$15.30	$ 5.60
BCI-24C	$31.00	$ 6.90

Rated 9 out of 10 by PC User

Kyocera Toner Cartridges

Model	Genuine	TONNY
TK-16H	$ 73.00	$ 61.00
TK-17	$103.00	$ 35.00
TK-18	$123.00	$ 38.00
TK-310	$130.00	$ 59.00
TK-510K	$ 98.00	-
TK-510C/M/Y	$172.00	-

Panasonic Toner Cartridges

Model	Genuine	TONNY
UG-3313	$242.00	$ 73.00
UG-5545	$242.00	-
KX-PDP8 Toner for KXP7100/7110	$136.00	$ 68.00

Lexmark Ink Cartridges

Model	Genuine	TONNY
18C0781A (#1)	$36.90	$24.60
10N0016 (#16)	$49.30	$18.40
15M0120 (#20)	$63.60	$24.00
10N0026 (#26)	$53.00	$23.00
18C0032 (#32)	$36.90	$21.30
18C0033 (#33)	$39.80	$23.10
18C0034 (#34)	$41.60	$25.00
18C0035 (#35)	$49.30	$27.00
12A1970 (#70)	$55.90	$21.00
18L0032 (#82)	$50.20	$26.10
18L0042(#83)	$62.60	$23.90

Brother Ink Cartridges

Model	Genuine	TONNY
LC-37BK	$25.20	$ 5.00
LC-37C/M/Y	$16.60	$ 6.50
LC-38BK	$24.50	$ 5.00
LC-38C/M/Y	$15.90	$ 6.50
LC-47BK	$34.60	$ 5.00
LC-47C/M/Y	$20.80	$ 6.50
LC-57BK	$34.50	$ 5.00
LC-57C/M/Y	$20.80	$ 6.50

HP Ink Cartridges

Model	Genuine	TONNY
C8721WA (#02BK)	$28.20	$11.00
C8771/2/3/4/5WA (#02C/M/Y/LC/LM)	$16.60	$ 8.20
C6615DA(#15)	$42.40	$14.10
C4936A (#18BK)	$30.00	$16.00
C9367/8/9A (#18C/M/Y)	$23.50	$16.00
C9351AA (#21)	$24.00	$16.00
C9352AA (#22)	$27.30	$21.00
C8727AA(#27)	$28.90	$14.10
C8728AA (#28)	$33.00	$22.00
51645A (#45)	$44.70	$16.00
C6656AA (#56)	$30.60	$15.20
C6657AA (#57)	$48.90	$23.00
C6658AA (#58)	$38.80	$23.00
CC641WA(#60XL) BK	$45.00	$27.00
CC644WA(#60XL) Color	$51.00	$29.00
CB336WA(#74XL)	$44.80	$26.00
CB338WA (#75XL)	$49.80	$27.00
C8765EA (#78)	$48.80	$19.90
C9396A (#88 BK)	$49.60	$18.00
C9391/2/3A(#88C/M/Y)	$36.40	$14.70
C9362WA(#92)	$23.20	$14.70
C9361WA(#93)	$30.00	$16.90
C8765WA(#94)	$31.30	$16.90
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C9364WA (#98)	$26.40	$15.80
C9369WA (#99)	$37.80	$25.00

Samsung Color Laser Toner

Model	Genuine	TONNY
CLP-300A BK	$ 95.00	$ 29.00
CLP-300A C/M/Y	$ 86.00	$ 29.00
CLT-409S BK for CLP-310/315,CLX-3170/3175	$ 74.00	-
CLT-409S C/M/Y for CLP-310/315,CLX-3170/3175	$ 63.00	-
CLP-510D7 BK	$153.00	$ 92.00
CLP-510D5 C/M/Y	$171.00	$ 92.00
CLP-600A BK	$131.00	$113.00
CLP-600A C/M/Y	$184.00	$119.00

HP Toner Cartridges

Model	Genuine	TONNY
Q2610A	$ 183.00	$ 55.00
Q6511X	$ 316.00	$ 69.00
Q2612A	$ 106.00	$ 45.00
Q2613A	$ 109.00	$ 45.00
C7115A	$ 95.00	$ 45.00
Q7516A	$ 276.00	$ 99.00
C4127X	$ 194.00	$ 59.00
CB435A	$ 95.00	$ 49.00
CB436A	$ 107.00	$ 49.00
Q1338A	$ 235.00	$ 85.00
Q5942A	$ 226.00	$ 95.00
Q5942X	$ 343.00	$105.00
Q5949A	$ 109.00	$ 49.00
Q5949X	$ 201.00	$ 55.00
Q7551X	$ 330.00	$ 76.00
Q7553A	$ 123.00	$ 49.00
Q7553X	$ 227.00	$ 59.00
C8061X	$ 194.00	$ 59.00
C4092A	$ 90.00	$ 45.00
C4096A	$ 153.00	$ 59.00

HP Color Toner

Model	Genuine	TONNY
CB540A	$109.00	$ 75.00
8541/2/3A	$ 99.00	$ 75.00
Q6000A	$116.00	$ 78.00
Q6001/2/3A	$126.00	$ 78.00
Q3960A/Q3700A	$126.00	$ 65.00
Q3961/2/3A	$151.00	$ 65.00

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Brother Toner Cartridges

Model	Genuine	TONNY
TN-2025	$ 86.00	$ 49.00
DR-2025	$156.00	$ 62.00
TN-2150	$ 88.00	$ 49.00
DR-2125	$155.00	$ 69.00
TN-3060	$123.00	$ 49.00
TN-3185	$128.00	$ 49.00
TN-3290	$159.00	$ 49.00
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TN-7600	$ 122.00	$ 49.00
TN-8000	$ 47.00	$ 16.00
TN-04BK	$257.00	$ 89.00
TN-04C/C/Y	$257.00	$ 89.00
TN-12BK	$139.00	$ 72.00
TN-12C/M/Y	$281.00	$ 105.00
TN-155 BK	$139.00	$ 89.00
TN-155 C/M/Y	$196.00	$ 99.00

Samsung Laser Toner

Model	Genuine	TONNY
SCX-4100D3	$123.00	$ 49.00
SCX-4216D3	$123.00	$ 49.00
SCX-D4200A	$123.00	$ 49.00
SCX-4521D3	$126.00	$ 49.00
SCX-D4725A	$123.00	$ 64.00
SCX-5312D6	$ 96.00	$ 70.00
SF-5100D3	$123.00	$ 49.00
ML-1210D3	$123.00	$ 49.00
ML-1610D2	$114.00	$ 49.00
MLT-D108S	$ 95.00	-
MLT-D109L	$145.00	-
ML-1710D3	$123.00	$ 49.00
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ML-2150D8	$219.00	$ 82.00
ML-2250D5	$144.00	$ 59.00
ML-D3050B 8k	$288.00	$ 86.00

Canon Toner Cartridges

Model	Genuine	TONNY
CART 303(Q2612A)	$ 89.00	$ 45.00
CART 308(Q5949A)	$ 89.00	$ 49.00
CART 310 II(Q6511X)	$ 264.00	$ 79.00
CART 312(CB435A)	$ 81.00	$ 49.00
CART 313(CB436A)	$ 86.80	$ 49.00
EP-22 (C4092A)	$ 75.00	$ 45.00
EP-26	$ 99.00	$ 45.00
CART307BK(Q6000A)	$ 99.00	$ 78.00
CART307C/M/Y(Q6001/2/3A)	$105.00	$ 78.00
CART 301 BK (EP87 BK)	$125.00	$ 77.00
CART 301 C/M/Y (EP87CMY)	$140.00	$ 77.00
CART311BK	$155.00	-
CART311C/M/Y	$199.00	-
FX-3	$ 99.00	$ 45.00
FX-7	$139.00	$ 65.00
FX-9	$120.00	$ 49.00
CARTN	$231.00	$ 59.00
CARTU	$105.00	$ 45.00
CARTW	$149.00	$ 53.00
E-31	$195.00	$ 55.00

Konica Minolta Color Laser Toner

Model	Genuine	TONNY
QMS Magicolor 2300/2350 BK	$121.00	$ 69.00
QMS Magicolor 2300/2350 C/M/Y	$161.00	$ 69.00
QMS Magicolor 2400W/2430DL/2450 BK	$119.00	$ 85.00
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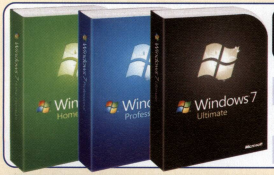

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LC-38BK2PK	39.52
LC-38C,M,Y	13.13
LC-38CL3PK	34.62
LC-47B	33.46
LC-47BK2PK	57.41
LC-47C,M,Y	18.39
LC-47CL3PK	47.37
LC-47BK HY	47.83
LC-57BK	33.46
LC-57BK2PK	57.41
LC-57C,M,Y	18.39
LC-57CL3PK	47.37
LC-57PVP	80.54
LC-67BK	30.31
LC-67BK2PK	53.02
LC-67C,M,Y	15.13
LC-67CL3PK	40.56
LC-67HY-BK	43.44
LC-67HY-BK2PK	80.25
LC-67HY-C,M,Y	26.26
LC-67HY-CL3PK	70.45
LC-800BK	33.46
LC-800C,M,Y	18.39

BROTHER TONER	Price $
TN200	43.56
TN-2025	79.73
TN-2130	54.75
TN-2150	82.04
TN-3030	82.97
TN-3060	114.87
TN-3145	86.14
TN-3185	119.66
TN-3250	88.73
TN-3290	153.30
TN-4100	135.64
TN-5500	134.66
TN-6300	77.72
TN-6600	108.99
TN-7300	84.41
TN-7600	113.60
TN-8000	43.56
9299BA	119.43
TN-04B	239.32
TN-04C	239.32
TN-04M	239.32
TN-04Y	239.32
TN-150BK	82.04
TN-150C	96.52
TN-150M	96.52
TN-150Y	96.52
TN-155BK	125.37
TN-155C	183.87
TN-155M	183.87
TN-155Y	183.87

CANON INK	Price $
PG40	29.22
PG40-TWIN	49.85
CL41	31.94
CL41-Twin	53.48
PG40CL41CP	52.50
PG40CL41VP	72.58
PG50	36.69
CL51	41.71
CL52	34.55
PGI5BK	19.54
PGI5BK-TWIN	36.75
BCI6BK	14.10
BCI6C,Y,M	14.10
PGI7BK	22.02
CLI8BK	19.66
CLI8C,M,Y	19.66
CLI8G,R	19.66
CLI8VPII	75.41
PGI9PBK	22.51

CANON INK (cont.)	Price $
PGI9C,M,Y	22.51
PGI9CLEAR	19.90
BCI24BK-TWIN	19.30
BCI24C-TWIN	40.16
KP-36IP	17.91
PGS10	20.75
CLS11	23.96
PGS10CLS11CP	41.25
PGS12	30.37
CLS13	32.00
PGI520BK	15.97
PGI520BK-TWIN	30.79
CLI521BK	15.97
CLI521GY	15.97
CLI521C,Y,M	15.97

CANON FAX CARTRIDGES	Price $
FX3	75.00
FX7	128.08
FX9	104.83
FX12	156.93

CANON TONER	Price $
CART303	77.54
CART308II	148.05
CART310II	241.97
CART312	69.75
EP-22CART	69.75
CART307BK	85.39
CART307C,M,Y	93.24
CART316BK	76.91
CART316C,M,Y	68.37
CART301BK	116.72
CART301C,M,Y	132.35
CART311BK	140.20
CART311C,M,Y	179.37
CART317BK	171.53
CART317C,M,Y	171.53

CANON COPIER TONER	Price $
CARTN	218.49
CARTN1	93.24
E31CART	167.32
TG-41B	149.43
TG-41C,M,Y	195.41
TG-23B	89.31
TG-23C,M,Y	175.39
TG-22B	138.70
TG-22C,M,Y	195.30
TG-35B	168.30
TG-35C,M,Y	184.62
TG-31B	153.76
TG-31C,M,Y	271.17
TG-30B	158.08
TG-30C,M,Y	294.53
TG-24B	132.70
TG-24C,M,Y	197.89

EPSON INK	Price $
T0472,3,4	12.89
T0491,2,3,4,5,6	17.67
C13T054090	9.23
T0541,2,3,4,7,8,9	17.67
T5591,2,3,4,5,6	17.67
T0561,2,3,4	15.31
T0591,2,3,4,5,6,7,8,9	18.45
T0631,2,3,4,5,6	13.67
C13T062190	20.15
73,73N (B,C,M,Y)	13.67
73H,73HN	31.40
81,81N (B,C,M,Y,IC,IM)	21.66
82,82N (B,C,M,Y,IC,IM)	16.03
T0870	13.61
T0871,2,3,4,5,7,8,9	18.45
91,91N (B,C,M,Y)	8.35
T0961,2,3,4,5,6,7,8,9	18.45
Epson #103 H,Y Black	27.41
Epson #103 H,Y (C,M,Y)	17.67

HP INK	Price $
HP-02B -C8721WA	22.26
HP-02 C,M,Y,IC,IM	12.40
HP02TwinPack - CE015AA	36.17
HP02 PhotoPack - CG849AA	65.77
HP10 (C4844A(A))	36.23
HP11 ink C,M,Y	36.23
HP13 B,C,M,Y	28.01
HP15 - C6615DA	34.79
HP15TwinPack - CC626AA	53.08
HP21XL - C9351CA	31.58
HP22XL C,M,Y - C9352CA	34.73
HP27/28 combo - CC628AA	39.64
HP27 Twin Black - CC621AA	36.46
HP28 - C8728AA	26.38
HP29 - 51629AA	38.66
HP45TwinPack - CC625AA	56.77
HP56/57 Combo - CC629AA	53.08
HP56 TwinPack - CC620AA	39.75
HP60XL Black - CC641WA	35.63
HP60XL colours - CC644WA	39.64
HP74XL Black - CB336WA	35.54
HP75XL - CB338WA	39.41
HP88XL Black - C9396AA	37.10
HP88XL Colours	27.77
HP92 - C9362WA	17.79
HP93 - C9361WA	23.78
HP 95 - C8766WA	29.77
HP94 TwinPack - CC622AA	40.21
HP94/95 Combo - SA307AA	42.06
HP96 TwinPack - CC623AA	60.29
HP 97 - C9363WA	39.41
HP98 TwinPack - CC624AA	35.09
HP564XL Black - CB321WA	35.21
HP564XL Colours	19.36
HP920XL Black - CD975AA	34.00
HP920XL Colours	17.00
HP940XL Black - C4906AA	38.94
HP940XL Colours	29.46

HP TONER	Price $
Q2612A	79.39
C7115A	69.81
C4127X	175.85

HP TONER (cont.)	Price $
CB435A	68.95
CB436A	79.27
Q1339A	282.30
Q5942X	313.24
Q5942XD	564.22
C8543X	382.88
Q5949X	148.22
Q5949XD	267.30
Q7551X	246.53
Q7553X	168.12
C8061X	138.01
C8061X	177.01
CC364X	312.43
CB540A	80.20
CB541A	73.21
CB542A	73.21
CB543A	73.21
Q3960A	93.99
Q3961A	113.20
Q3962A	113.20
Q3963A	113.20
Q3964A	262.57
Q6000A	86.20
Q6001A	93.99
Q6002A	93.99
Q6003A	93.99
CE250A	145.45
CE250X	211.51
CE251A	286.40
CE252A	286.40
CE253A	286.40
Q6470A	150.01
Q6471A	149.14
Q6472A	149.14
Q6473A	149.14
Q2681A	193.16
Q2682A	193.16
Q2683A	193.16
Q7581A	193.16
Q7582A	193.16
Q7583A	193.16
Q5950A	201.70
Q5951A	286.22
Q5952A	286.22
Q5953A	286.22

KYOCERA TONER	Price $
TK-134	119.66
TK-310	126.35
TK-344	123.81
TK-520K,C,M,Y	140.43
TK-500K	90.58
TK-500C,M,Y	182.03
TK-510K	90.58
TK-510C,M,Y	162.01
TK-544K	120.52
TK-544C,M,Y	157.05
TK-554K	128.78
TK-554C,M,Y	173.66
TK-564K	157.05
TK-564C,M,Y	248.49
TK-574K	198.64
TK-574C,M,Y	231.93
TK-800C,M,Y	171.18

KYOCERA TONER (cont.)	Price $
TK-810K	173.66
TK-810C,M,Y	286.74
TK-820K	117.99
TK-820C,M,Y	112.16

LEXMARK INK	Price $
#23 - 18C1523A	28.80
#24 - 18C1524A	32.49
#28 - 18C1428A	26.02
#29 - 18C1429A	27.89
#32 #33 TwinPack - TPANZ32	58.50
#34 #35 TwinPack - TPANZ22	70.04
#36XL - 18C2170A	35.42
#37XL - 18C2180A	42.52
#42 - 18Y0142A	28.80
#44XL - 18Y0144A	35.42
#43XL #44XL TwinPack - TPANZ15	70.04
#60 - 17G0060A	51.93
#82 - 18L0032A	43.44
#83 - 18L0042A	53.66

LEXMARK TONER	Price $
C500H2KG	211.91
C500H2CG	184.51
C500H2MG	184.51
C500H2YG	184.51
C5220KS	161.20
C5220CS	182.43
C5220MS	182.43
C5220YS	182.43
C5240KH	243.59
C5240CH	244.80
C5240MH	244.80
C5240YH	244.80
X945X2KG	227.26
X945X2CG	568.32
X945X2MG	568.32
X945X2YG	568.32

SAMSUNG TONER	Price $
MLT-D209L	140.37
MLT-D108S	80.66
MLT-P108A	128.54
ML-2010D3	101.95
ML-D2850B	144.41
ML-3560DB	273.01
CLP-K300A	80.60
CLP-C300A	69.75
CLP-M300A	69.75
CLP-Y300A	69.75
CLT-K409S	64.16
CLT-C409S	54.23
CLT-M409S	54.23
CLT-Y409S	54.23
CLP-510RB	268.57
CLP-510RT	204.99
CLP-K660B	125.78
CLP-C660B	166.74
CLP-M660B	166.74
CLP-Y660B	166.74
CLP-T660B	254.78

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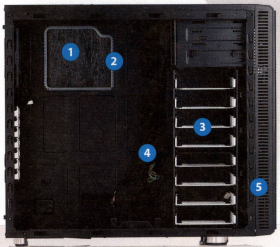

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LINE CONNECT model

CRU2 is designed to connect direct to ANY telephone line extension, to provide High Quality telephone call recording to your PC (PC software provided) or other recording device. Provides automatic operation with start/stop capability from any telephone.

HANDSET CONNECT model

CRU3 is designed to connect to any PABX, COMMANDER, PSTN or VOIP handset. Will then provide High Quality telephone call recording to your PC (PC software provided). Automatic operation with start/stop activation from your PC.

PROFESSIONAL model

CRU4 provides all facilities of the CRU3 Model (it connects to any handset) and in addition allows message(s), or previous recordings to be played back to the other party at any time. Allows notes to be tagged to the recording file.

AUTO DIGITAL ANNOUNCEMENT

Our AUTOMATIC ANNOUNCEMENT DEVICE Answer your incoming telephone calls, play announcement and then resume ringing of your telephones. Ideal for announcing change of number or that the call will be recorded.

TELEPHONE LINE DOOR STATION SOLUTION

DOOR STATION UNIT

DS2 will RING all of your telephones when a visitor arrives at your front door or gate. Answer to communicate. Open the door or gate with touch tones. Operates on any ordinary single line or multi-line phone system. Requires surface mount or flush mount door phone.

PABX DOOR STATION UNIT

DS4 is designed to be connected to an analogue extension of any PABX, Commander or other multi line telephone system. DS4 goes 'off hook' when activated by the door phone. Requires surface mount or flush mount door phone.

DOOR STATION DIAL OUT

Our New DS6 model will RING your telephones and then DIAL OUT to a pre-programmed telephone number if a visitor arrives and you are not home. Requires Surface Mount or Flush Mount Door Phone. Can also connect to a PABX extension

DOOR PHONES

A range of door phones are available

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FAXSTREAM DUET SWITCHES

Will allow your Fax or Modem device to operate with the Telstra FaxStream Duet service.

Provides fully automatic fax reception, just like having a separate line. Two models are available.

INTELLIGENT FAXSWITCH

FAX SWITCH will allow your existing Fax Device to connect to a Single Telephone line or a Multi Line (PABX) phone system, to provide for FULLY AUTOMATIC Fax operation. Will operate with all existing telephones and also an Answering machine.

INTELLIGENT MODEMSWITCH

MODEM SWITCH allows your existing Data Modem Device to connect to any Single Telephone Line, Fax Line or a Multi Line (PABX) phone system, to provide for FULLY AUTOMATIC Dial in & Dial Out Modem Data operation. Models available that allow up to 8 devices on 1 line.

EFTPOS SWITCH

EFTPOS switch will allow your existing EFTPOS device share any existing Single Telephone Line, Fax Line or a Multi Line (PABX) phone system. Provides automatic connection on dialing. BARGE-IN protection prevents interference when line is in use. Alternative model will allow operation

MISCELLANEOUS TELEPHONE LINE APPLICATION

VOIP SELECTOR

This device will allow you to connect one or more telephones to your TELEPHONE LINE and VOIP LINE. Incoming calls from either line ring on the connected telephone(s). Outgoing calls are automatically DEFAULTED to ONE LINE, but the alternative line can be selected by DTMF code.

TWO LINE SELECTOR

Premium device will allow you to connect one Telephone Device to two Telephone lines (Telstra, Optus, VOIP, PABX etc). Ideal for EFTPOS, Cordless Phones, Answering Machines, Modems etc. Additional features are provided, including automatic (or manual) selection of an alternative line if the default line is busy.

TELEPHONE CALL TRANSFER

Easy-Transfer will allow you to answer a call on one telephone and then TRANSFER the call to another telephone fitted to the same line. Also provides INTERCOM facility. Uses your existing telephones.

MULTIPLE NUMBER SWITCH

Operate Two numbers on one line. This device will conn your Multiple number calls to one set of phones or answering machine and your Normal number calls to another set of phones or answering machine.

TELEPHONE LINE ON HOLD SOLUTIONS

DIGITAL ON HOLD

DMC, Australia's Leading On Hold player, is an MP3 based Message On Hold Device, designed to private line High Quality and High Reliability that is necessary for all telephone On Hold applications. Easy message change provided by replacing memory card.

ELECTRONIC MESSAGE UPDATE

DMS is available with range of optional Automatic electronic message update methods including Email, Modem, FTP and Network IP. We have a National Network of Dealers ready to produce your customized message.

SINGLE LINE ON HOLD

Just plug our MOH Line Sharer into any socket on your single telephone line, connect any audio source (Radio, PC or DMC) and you now have a professional telephone Line On Hold facility for your existing telephones.

AUTOMATIC CALL ATTENDANT

Our single line CALL ATTENDANT will answer yo incoming calls after a preset number of rings, play greeting & then put your call on hold until you are able to answer. Also provides Message on Hold facility for your single line.

MORE MISCELLANEOUS EQUIPMENT

TELEPHONE LINE SIMULATOR

This TELEPHONE LINE SIMULATOR can be used for testing, programming & demonstration of analogue telecommunications equipment, without the need to use a telephone line and generating costly calls. 4 Models are available.

RING INDICATOR

This device detects incoming calls and will close/open a relay to match the cadence of the incoming ring. Can also be set to close a relay until a call is answered. Ideal for control of external horns or lights to advise of an incoming telephone call.

REMOTE TELEPHONE ACTIVATOR

Call in to Switch ON, Switch OFF or RESET your PC, SERVER or any electrical device by telephone line using touch tone commands. RTA connects to any telephone line. Requires PCU accessory. 3 models are available.

POWER CONTROL UNIT

PCU connects direct to the RTA and also to yo power socket to allow telephone line dial in switching of the 240V supply connected to your equipment. Easy Plug In User Installation. Controls up to 10 Amps.

DIGITAL AUDIO EQUIPMENT

MESSAGE ON DEMAND

TDS can be programmed with up to 256 MP3 based messages stored on an MMC/SD card, which can be recalled and played by keyed entry or time programmed sequences.

BACKGROUND MUSIC SYSTEM

High Quality BMS holds up to 8GB of MP3 Music/ Messages on a SD Flash Card. Plays Messages at user set intervals. Powerful internal amp will allow direct connection of up to 8 speakers. Line Level output is also provided. Has encryption facility.

TALKING DISPLAY UNIT

TDU will play 1 or more pre-recorded messages as soon it is triggered by a movement sensor switch., or a preset time interval. Ideal for Product Promotions, Product Information, Message Warnings etc.

MULTIPLE INPUT UNIT

MIU will allow for up to 12 separate movement sens or switches to be connected to the TDU. Each sen triggers its own unique message. Message output via any 8 ohm unpowered powered or amplified speaker.

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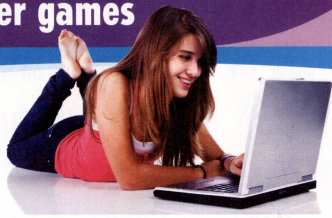

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